

Frank Lloyd Wright

World
Architecture

Husband's name		JAMES RUSSELL HATCH	
Wife's name		ADEL HATCH	
Children List each child (whether living or dead) in order of birth			Sources of Information
6 Sex	Name	Spouse	
M	CARLY WAYNE WILSON	BEATRICE RANDE DAVIS	
Born	Place		
FEB 16, 1944	HEBER UT		
Chr.	Place		
Mar.	Place		
June 23 1961			
Died	Place		
7 Sex	Name	Spouse	
Born	Place		
Chr.	Place		
Mar.	Place		
Died	Place		
8 Sex	Name	Spouse	
Born	Place		
Chr.	Place		
Mar.	Place		
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9 Sex	Name	Spouse	
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Chr.	Place		
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10 Sex	Name	Spouse	
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Chr.	Place		
Mar.	Place		
Died	Place		
11 Sex	Name	Spouse	
Born	Place		
Chr.	Place		
Mar.	Place		
Died	Place		
Other Marriages and necessary explanations			
JAMES RUSSELL HATCH & BETTY J HATCH - KAREN HAWKINS			
ADEL HATCH & JAMES RUSSELL HATCH - BETTY PALMER			
JAMES RUSSELL HATCH & BETTY PALMER - KAREN HAWKINS			

house (in Western architecture)

A house can be characterized as a structure used as a residence. Houses have assumed a great variety of forms and styles over the ages, reflecting their changing functions as well as differences in culture, climate, available building materials, and technology.

DOMESTIC ARCHITECTURE

Early Forms and Materials

The earliest houses were circular in form, perhaps a legacy of cave shelters. The first known example of a permanent settlement is the village of Zawi Chemui (c.9000 BC) in southeastern Anatolia on the Turkish-Iranian border. It consisted of houses made from mud and reeds, with conical roofs and circular stone bases. The first known use of a rectangular house plan occurred around 7000 BC near JERICHO in the Jordan valley. Rectangular structures have remained dominant in Western domestic architecture to the present. A major innovation in form was the development of the interior courtyard by the Sumerians in the 4th millennium BC (see MESOPOTAMIA). The outer walls of courtyard houses, constructed of mud brick, were left bare; the interior of the enclosure contained a square courtyard. The use of a courtyard indicates that the house was now thought of as a place of privacy as well as of shelter.

With the emergence of cities, new forms of dwellings were developed to house populations of greater density. At UR in Mesopotamia, during the Isin-Larsa period (2025-1763 BC), domestic architecture became increasingly sophisticated, and two-story town houses with wooden balconies, a paved central court, and staircases were built of mud brick. These houses were well suited to urban demands. Similar houses are still found in Baghdad and other Middle Eastern cities.

Bricks of baked mud were used for the first time around 8000 BC at Jericho to build houses; they had domed roofs of wattle and daub, stone foundations, and door openings—features that suggest a desire to build permanent settlements. Baked bricks were widely used in Mesopotamia and were curved on one long side and straight on all the others. They facilitated the development of new forms of domestic architecture because they allowed builders greater flexibility in choosing shape and dimension.

Tall, strong reeds, gathered from river marshes, were also used to build houses in Mesopotamia. The reeds were tied together to form vertical bundles inserted into the ground. The tops of the reeds were then bent inward to form an arch. The outside reed walls were reinforced with mud and plaster. The strength and flexibility of the reed led to important structural discoveries: the COLUMN, the building frame, the arch, and the vault (see ARCH AND VAULT).

Greek and Roman Domestic Architecture

Basic to the development of domestic architecture was the megaron house, which first appeared in northern Mesopotamia around 1800 BC. This type consisted of a rectangular main room—the megaron—with a hearth and four columns to support the roof, and an entrance porch with two wooden posts. Greek homes in the Homeric era were influenced by the megaron type, and the Mycenaean Greeks (see AEGEAN CIVILIZATION) used it as the basic unit of their architecture. The megaron house included several fundamentals of construction: posts, lintel beams (see POST AND LINTEL), and the frame. The primitive porch of the megaron house was the prototype of the open-column portico of the classical Greek TEMPLE; in fact, the Greeks developed their temples from this form of domestic architecture (see GREEK ARCHITECTURE).

During the classical period (5th and 4th centuries BC) the Greeks replaced the megaron type with the courtyard plan, although the megaron house continued to be used in Greek Anatolia. The rooms of Greek houses in the classical period were asymmetrically grouped around three sides of a court, with a long central porch—the pastas—across the width of the building on the north of the court. In houses on Delos, for example, the principal room facing the court was the dining room; its mosaic floor was not only decorative but easy to clean. Many Delian houses had two stories, and separate kitchens replaced the hearth, as in the so-called Maison de la Colline (2d century BC). The interiors of these classical houses were very simple, as were Greek furnishings (see FURNITURE) and utensils. The Greeks added private gardens and gateways to their houses, indicating a desire to articulate the relationship between the interior of the house and the world outside.

In contrast to the irregularity of Greek domestic architecture, Roman houses were symmetrical and organized

along a single central axis. From the front door of a Roman town house, or domus, the porch, the ATRIUM (central court), the tablinum (the main living room), and the garden peristyle (or colonnade) in back were visible. The rectangular opening in the atrium roof, known as the compluvium, let in rain as well as light; its corresponding basin in the floor was called the impluvium, and both had evolved from the cooking hearth. The houses of wealthy Romans had separate kitchens and baths.

The best-known ancient houses are those at POMPEII, first excavated in 1748, and HERCULANEUM, rediscovered in 1709. Surrounded by bare outer walls, these houses were built with atriums and a peristyle surrounding the interior gardens, reflecting the influence of earlier Greek and Roman styles. Although in Pompeii most businesses were conducted in the house, a few wealthy men sought a residential refuge from the pressures of urban life (see MYSTERIES, VILLA OF THE). They built separate houses away from their places of business, thereby establishing a pattern that has continued to the present time.

The Romans also built country villas, often extremely elaborate and of enormous size, such as Emperor Maximian's villa (early 4th century) at PIAZZA ARMERINA, Sicily. Maximian's villa, however, is in fact a PALACE, a monumental version of a house, but serving other functions as well.

In the large cities of the empire, by contrast, the Romans built multistory apartment buildings, or insulae. In Rome the tallest insulae were first limited to five stories (20.73 m/68 ft) by Emperor Augustus and later to 17.68 m (58 ft) by Emperor Trajan. These tenements anticipated modern versions in practically every respect. The design was bare, repetitive, and uniform throughout.

Unlike today's apartment building, however, the Roman apartments were simply a means of accommodating the maximum number of people in a minimum amount of space; they had no kitchens, bathrooms, lavatories, or chimneys. The occupants used the numerous public baths and latrines, carried water from wells and fountains, and cooked on braziers.

English Domestic Architecture

Many forms of houses developed in Great Britain, which will serve herein as exemplars for the evolution of European domestic architecture. The CASTLE, an elaborate form of fortified residence, is discussed elsewhere in the encyclopedia, as is the CHATEAU, the French version of a castle. In the Bronze Age, people at Skara Brae on the Orkney Islands lived in one-room stone houses with a central hearth; the houses were connected by passageways and used a variety of furnishings made of stone. The long house, which was common in the Iron Age throughout Europe, consisted of a living room with a central hearth and a stable or byre for domestic animals. During the Dark Ages round huts made of wood or stacked stones without mortar were also common. The only surviving Anglo-Saxon structures are ecclesiastical stone buildings (see ENGLISH ART AND ARCHITECTURE).

After 1066 the Normans brought to England a type of stone house known as a keep (see NORMAN ARCHITECTURE). The high walls and small, narrow windows of the stone keep made it easier to keep out enemies and enabled its inhabitants to devote more time to domestic life. The keep, which had bedrooms, fireplaces, primitive lavatories, and a stable for animals, was organized on several floors around a large central hall. The White Tower (c.1086-97) within the TOWER OF LONDON is an example of an elaborate hall-keep.

In the early Middle Ages the hall house, consisting of a single large room divided into naves and aisles by timber columns and with an interior hearth, was the common dwelling of landowners. At the end of the Middle Ages the medieval hall house, along with the cruck-built house—employing large curved timbers instead of posts and rafters—and the Norman two-story stone house, was to serve as one of the major contributors to the development of the English rectangular house.

The Tudor or Elizabethan house developed from the medieval hall house and the two-story Norman house during the 16th century. Built with a timber frame, which was filled in with wattling and clay daub that were in turn coated with plaster, the Tudor house reflected the innovations in timber construction that took place during the 15th century. The basic plan of the Tudor house was H-shaped, with a kitchen, pantry, and servants' quarters on one side and family bedrooms and parlor on the other. In the middle was a large hall that served as a common room. The peace that followed the Wars of the Roses (1455-85) enabled builders to make more extensive use of glass windows. Hardwick Hall (1590-97), Derbyshire, England, is an outstanding example of a building in which almost all of the walls have been filled with huge windows.

The Tudor house and its 17th-century successor, the Stuart house, were both essentially rural types and were

displaced in the 18th century by the Georgian house, a type more suited to urban conditions (see **GEORGIAN STYLE**). A cubic plan supplanted the medieval H-plan, and less emphasis was placed on the central hall. The Georgian house had its origins in the work of the Italian Renaissance architect Andrea **PALLADIO**. Palladio's houses are usually symmetrical in design, as in the cubic-cross plan of his **VILLA ROTUNDA** (Villa Capra; begun 1552), Vincenza, Italy. It has entrances and porticos on all four sides that clearly integrate the interior of the house with the exterior. Most important is the human scale of the house, which, although grand, does not overwhelm the observer.

The Italian Renaissance style of house design reached England largely through the research and designs of the English architect Inigo **JONES**, whose work led to the creation of the English Palladian style. Jones designed several major houses—for example, the Queen's House (1616–40), Greenwich; the Banqueting House (see **WHITEHALL PALACE**) at Whitehall (1619–22), London; and Wilton House (1640), Wiltshire—whose forms, based on the cube, create a harmony between the building and its setting. The unified, orderly design of Jones's large houses lent itself to the design of later, small urban houses.

As the population increased and building costs rose in the 18th century, more economical styles of housing were sought. New laws applied structural standards to houses and caused modifications of their exterior designs. This created such unified urban settings as Bedford Square (begun 1774) in London, where the frames of the windows and doors were reduced, simplified, and standardized.

Houses were no longer necessarily designed as individual units; instead, whole city blocks were designed as a unit, such as the Circus (1754) at Bath, Somerset, by John Wood, Sr. (see **WOOD family**). Eighteenth-century Georgian town houses had narrow frontages, high ceilings, and simple facades. The individual character of each house was established by the wrought-iron railings, the terrace, the door, the windows, and the cornice. The gardens were completely hidden from the street by the uninterrupted row of almost identical houses. This established an urban pattern that soon spread throughout Europe and the Americas.

American Domestic Architecture

The European colonists brought to the New World the artistic traditions of their native lands. Thus, in North America, the Dutch, English, and French colonists of the 17th and 18th centuries built houses in European and English styles, adapted to the available materials and the climate of their areas (see **COLONIAL STYLES IN NORTH AMERICA**). In Virginia, for example, brick was favored, and such surviving buildings as the Adam Thoroughgood House (1636–40), Princess Anne County, Va., with steep-pitched roofs and massive chimneys, have an unmistakable English Jacobean look. In New England, where stone and wood were abundant, the English colonists built half-timber frame houses, usually with stone foundations and chimneys, and sheathed with clapboard, such as the "stone-ender" Elezeur Arnold House (1687), Lincoln, R.I., with its wide stone chimney forming one end of the house. Similarly, the Dutch settlers in New Jersey and New York built variants of stone and frame houses, with peak roofs and curved, overhanging eaves, such as the wooden Pieter Wyckoff House (c.1639–41), Brooklyn, N.Y., and the stone and wood Abraham Ackerman House (1704), Hackensack, N.J.

In the 18th century the Georgian style predominated as the English assumed dominance in the colonies. A *Book of Architecture* (1728) by the English architect James **GIBBS** and other similar volumes were strongly influential in the colonies and led to a neo-Palladian revival in the decade preceding the American Revolution. Typical of this period is the Miles Brewton House (c.1765–69), Charleston, S.C., one of the numerous prerevolutionary houses preserved in that wealthy port city. **NEOCLASSICISM** became the dominant artistic influence in the new United States, in particular through the efforts of Thomas Jefferson, Charles **BULFINCH**, and the British expatriate Benjamin **LATROBE**. They saw Roman architecture as the paradigm for both public and domestic buildings of the new republic. The resultant **FEDERAL STYLE**, dominant from 1785 to 1810, is exemplified by Jefferson's **MONTICELLO** (1770–1809) near Charlottesville, Va., Bulfinch's third Harrison Gray Otis House (1806) in Boston, and Latrobe's Stephen Decatur House (1818) in Washington, D.C.

The **GREEK REVIVAL** was the first of numerous historical revivals to succeed the federal style. It was enormously popular for buildings of every type and in domestic architecture found its most opulent expression in the huge pillared mansions of the antebellum South, such as Berry Hill (1835–40), Halifax County, Va., designed by its owner, James Coles Bruce. Latrobe's pupils Robert **MILLS** and William **STRICKLAND** produced numerous Greek Revival houses in New York, Philadelphia, and Washington, D.C. In New England, Ithiel **TOWN** created many splendid Greek Revival mansions, including his own house (c.1832) in New Haven, Conn.

Overlapping the Greek Revival style was the **GOTHIC REVIVAL**, engendered by the romantic movement (see

ROMANTICISM, art) in Europe and the United States. Executed for the most part in wood and stucco, houses in the Gothic style became extremely popular through the publication of Andrew Jackson DOWNING's Cottage Residences (1842) and The Architecture of Country Houses (1850), two of many house pattern-books extolling domestic buildings in Gothic, Italian Villa, and Romanesque styles. Downing's most significant contribution was the creation of the American cottage, a freestanding frame house that could be palatial or modest, depending on the client's means. They could be freely adapted from Downing's simple and well-organized plans and elevations by any competent carpenter; indeed, the style of these cottages is sometimes known as "carpenter Gothic."

The enormous growth of the United States between the Civil War and World War I led to increasing demands for inexpensive and simple houses in a bewildering array of eclectic styles. The balloon frame, an American invention employing relatively small and light wood members nailed together, allowed houses to be constructed rapidly and in any style. The open plans and practical features of houses in the so-called Stick and Shingle styles, more or less inspired by the English QUEEN ANNE STYLE, made them extremely popular. The greatest exponents of the Shingle style were Henry Hobson RICHARDSON—whose William Watts Sherman House (1874-76) in Newport, R.I., is a grandiose example—and the firm of MCKIM, MEAD, AND WHITE, creators of the stunningly simple William Low House (1887) in Bristol, R.I.

The direct descendants of the Shingle style were the prairie houses (see PRAIRIE SCHOOL) created by Frank Lloyd WRIGHT at the turn of the century in Chicago. Breaking open the domestic "box," Wright combined cruciform plans with free-flowing space between areas and strong horizontal emphasis in sweeping terraces and low, overhanging roofs, as in his early masterpiece, ROBIE HOUSE (1909), Chicago. In California, Bernard MAYBECK and the firm of GREENE AND GREENE created residences of superlative quality that were luxurious variants of the California bungalow, such as Greene and Greene's handcrafted David B. Gamble House (1909) in Pasadena. The revolutionary designs of these architects, largely ignored by the American public, were hailed by European architects, in particular by the avant-garde architects of Austria, Germany, and the Netherlands who were the precursors of the INTERNATIONAL STYLE in architecture.

Between 1920 and 1940 domestic architecture in the United States slowly but inexorably changed, due in most part to gradual modernization and standardization of technical systems (plumbing, heating, electricity) and the development of new materials (glass, metals, plastics, and wood products). Public preference for eclectic style in house design clothed these innovations in conventional shells. European catastrophes drove many great architects to America, where their presence was soon felt. The expatriates Ludwig MIES VAN DE ROHE and Walter GROPIUS, both former members of the BAUHAUS group in Germany, exerted enormous influence on American architects. The ubiquitous glass box, whether for apartment house, factory, motel, or office, dominated American building after World War II. The population explosion once again forced changes in building methods, resulting in the slab house, the split-level house, and the ranch house. They proliferated in gigantic housing tracts that spread for miles around every American city, engulfing any small towns in their path. The resultant houses, for the most part undistinguished and often indistinguishable from one another, did offer comfort and convenience of a standardized type (see HOUSING).

The decimated cities, at first decaying alarmingly, have in many instances begun to offer viable alternatives to the faceless suburban tract. URBAN PLANNING at its best offers both new housing and recycled older buildings, such as the BROWNSTONE. Still in the future is economically viable prefabricated housing, although its possibilities were brilliantly demonstrated in the innovative Habitat (1967) built by Moshe SAFDIE for Montreal's EXPO '67. The architects who represent POSTMODERN ARCHITECTURE, many of whom have created startling private houses, may also develop houses within the traditions of their great predecessors.

Valentin Tatransky

CONTEMPORARY HOUSE CONSTRUCTION

In terms of its basic construction, a contemporary house is composed of a FOUNDATION; the framing, or superstructure; an exterior skin; interior finishes; ELECTRICAL WIRING; HEATING SYSTEMS; and PLUMBING.

The Foundation

The base of the foundation, the footing, must be sunk below the frost line—the depth to which the ground freezes—to insure that it will not be moved by prolonged frost. The foundation walls are usually made of poured concrete or concrete block, and water-proofed below ground level. If the surrounding soil is poorly drained, drainage tile is used to divert underground water away from the foundation. Anchor bolts are set into the top of the

foundation wall and are used to anchor the wooden house frame to the foundation.

Framing

In a conventional frame house, the frame—the skeleton that supports all the major elements of the house—is almost always of wood, usually of relatively small dimensions: 2 by 4 in., 2 by 8 in., or 2 by 12 in. in various lengths. The frame is fastened to the foundation walls by the anchor bolts; door and window frames, siding, roof covering, and flooring are fastened to the frame.

Although framing nomenclature varies widely in different areas, it includes several universal terms for those framing members which are present in almost every house.

The sill plate is the wood plank that is anchored directly to the foundation wall and supports the exterior house wall. The roof plate anchors the roof rafters to the house frame.

Posts or corner studs are the main vertical supports of the frame.

Studs are smaller vertical members and provide support for exterior siding and interior paneling or wallboard.

Braces are diagonal members used to brace the studs.

Girders, or beams—often of steel—are horizontal members that carry the weight of the house.

Joists support the weight of the floor and ceiling.

Girts and plates are horizontal ties holding the frame together at the second floor level and on top of the studs at roof level.

Headers are members placed over a door or window opening. They are used to support the ends of studs that have been cut off to make the opening.

Rafters provide support for the roofing material.

Framing practices differ according to the type of house being built. Conventional eastern, or braced, framing is the oldest framing type and is characterized by the use of solid corner posts and studs that run the full height of the house from foundation to roof. In western, or platform, framing, each floor level acts as a platform for the posts and studs above it. Balloon-frame construction uses continuous foundation-to-roof studs; unlike eastern framing, however, it may not use diagonal stud braces but will rely for its lateral strength solely on its exterior sheathing. All three systems introduce short bracings, called fire-stops, that block the fluelike spaces between studs.

Floor framing consists of joists strengthened by short stiffening members, or bridging. Rough flooring, or subflooring, may be plywood or rough boards laid diagonally over the joists; the actual, or finish, floor—wood, vinyl, or tile—is then laid over this substructure.

Roof framing differs according to the shape of the roof (see ROOF AND ROOFING). The most common shape is the gable, or pitch, roof, which is a simple triangular section: the two sloping sides meet at the center, or ridge. Most roof shapes are variations of the gable. Roof frames consist of rafters that form the support for the roof covering. They are attached to the roof plate and slant upward to meet the ridge board. They may be reinforced by interior braces. (The preassembled wood TRUSS, which is a complete rafter unit, is now widely used in roof framing.) Plywood sheathing is nailed over the rafters, followed by air-resistant and moisture-resistant roofing paper and the exterior roofing material—usually asphalt shingle or slate.

Finishing

Interior walls, or partitions, are made up of studs covered with panels of Sheetrock, or drywall. (The older wet wall construction—plaster laid over thin strips of wood called lath—was slow and expensive and for the most part is no longer used.) The hollow space left within the wall will contain some of the plumbing, electrical wiring, and ductwork for certain types of heating and AIR-CONDITIONING systems. Other parts of these systems will be run through the exterior walls, the floors, and the ceilings.

Finish flooring and ceilings are now put in place. Interior trim such as doors, stairs, baseboards, and moldings is installed, along with finish plumbing and electric units: fixtures, switches, radiators, sinks, tubs, and so on.

Prior to exterior finishing, INSULATING MATERIALS are placed over or between the studs. Exterior plywood sheathing is then nailed over the studs, followed by building paper and the exterior finish material.

Don Ballou

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baroque art and architecture

{buh-rohk'}

Baroque art and architecture, broadly speaking, is the art and architecture of Europe and its Latin American colonies in the 17th and the first half of the 18th centuries. In a more specific sense, the term refers to the most characteristic of the styles created in that period—that is, to the art that arose in Italy and Flanders soon after 1600, dominated ITALIAN ART AND ARCHITECTURE until the classical revival of the mid- 18th century, and produced echoes of varying intensity in all other countries. This style is associated, above all, with Peter Paul RUBENS and Giovanni Lorenzo BERNINI.

ORIGINS

The label baroque was first applied to the art of this period in the late 18th century, when the style itself had gone out of fashion; as is not uncommon in art history, it was initially employed as a term of abuse. The word may be derived either from the Portuguese barocco, meaning an irregularly shaped pearl (in which sense it is still used by jewelers) or, as is perhaps more likely, from baroco, a scholastic term coined as a mnemonic aid for a tortuous argument in logic. As used by late 18th-century art critics, it signified "absurd," "willful," "grotesque"—in other words, a wanton defiance of the classical rules. Eventually, however, as the classical rules lost their hold in the next hundred years and art historians began to look more objectively at the art of the past, baroque lost its derogatory significance. By the early 20th century, first specialists and later a wider art-loving public saw that baroque artists and architects had made a positive and original contribution to European art and had not merely gone off on a wrong track.

Baroque art at its greatest and most intense is found in Roman Catholic countries, and a close association, if not an ideological link, existed between the style and the Roman Catholic church in the later stages of the COUNTER-REFORMATION. During that period, the church was reemphasizing its traditional spiritual doctrines in opposition to the rising forces of PROTESTANTISM and scientific progress and was simultaneously engaging in intense missionary activity. For both purposes, it needed vivid and compelling imagery. This the baroque artists and architects, with their capacity for creating spectacular visual effects and representing supernatural beings in a seemingly realistic way, were able to supply. They were also fitted to provide suitably sumptuous palaces for monarchs and other secular patrons anxious to impress their subjects (and each other) with their power and wealth. Because of its associations with authoritarian regimes in both church and state, the baroque succeeded best in traditional societies, such as those of Italy, Spain, and central Europe, whereas it met with some resistance in the more progressive societies of northern Europe (including France).

CHARACTERISTICS

For all its dynamism, the baroque style was not absolutely new, in the sense that Gothic art or cubism were new. Formally, it owed much to RENAISSANCE ART AND ARCHITECTURE and the intervening phase, MANNERISM; it was also influenced by the antique—Greek and Roman art and architecture. The classical orders of architecture and the idealized human figure are as much features of baroque art as they are of those earlier styles. A strong connection exists also between baroque and Renaissance (bypassing Mannerist) methods of representing reality. What was new in all these cases was the way in which the forms were used or the methods applied. To cite a slightly different example, some of the features correctly regarded as most typically baroque, such as the inward-curving FACADE and oval groundplan, were anticipated by prototypes occurring as sidelines, often in underdeveloped form, in the art of the past. (By the same token, baroque ILLUSIONISM was not without precedents, either.) Finally, baroque artists and architects did create some, although not many, entirely new forms, of which perhaps the most important was the double curve—inward at the sides, outward in the middle—used for facades, doorways, and furniture.

Leaving aside their various origins, the principal characteristics of the baroque may thus be summarized. In architecture, besides those already mentioned, the primary features are twisted columns and fantastical pediments. A baroque PEDIMENT may be varied in many ways, such as by interrupting it in the center, turning the sloping sides into scrolls, and curving it in its vertical plane. In sculpture, the style is characterized by fluttering draperies, realistic surfaces, and the use of bronze, white and colored marbles, and sometimes other materials in the same work. In painting, the main features are illusionistic ceilings, bold foreshortening, and a new, powerful kind of realism, obtained chiefly through the use of light and shade.

The expression of emotion was increasingly emphasized in both painting and sculpture. In larger works, such as

tombs and church interiors, two or more arts were often harnessed into one overwhelming effect, producing what has been called the baroque Gesamtkunstwerk ("total art work").

The result was a style of great richness and flexibility that could encompass effects both on the grandest possible scale and on the scale of a small oil sketch or pen drawing. Popular as well as sophisticated, it could be used equally for didactic purposes and for decoration.

HISTORICAL DEVELOPMENT

The development of the baroque style began in Italy around 1600, when a group of painters, of whom the most important were Michelangelo da CARAVAGGIO and Annibale CARRACCI, brought about a revival of art in Rome following the breakdown of Mannerism.

The first to turn this revival decisively toward a baroque aesthetic, however, was the Flemish painter Rubens, who, after studying in Italy from 1600 to 1608, created a baroque style of marvelous color, vitality, and realism. He used the style in paintings for the Roman Catholic church and for the court of the Spanish Netherlands as well as other courts he visited. An example is his series of allegorical paintings (1629-35) glorifying the Stuart monarchy, on the ceiling of Inigo JONES's Banqueting House, WHITEHALL PALACE, London.

The main center of the baroque in the first three-quarters of the 17th century, however, was Rome, where a greater number of important works of art were created, and far more artists were active, than in all the rest of Europe. The dominant personalities were the sculptor and architect Bernini, the architect Francesco BORROMINI, and the architect and painter Pietro da CORTONA, the latter a master of illusionistic ceiling painting (Triumph of Divine Providence, 1633-39; Palazzo Barberini, Rome). Bernini's most outstanding contribution is to be seen in his additions to ST. PETER'S BASILICA (1624-78), comprising the colonnade, the tombs of Popes URBAN VIII and Alexander VII, the statue of St. Longinus, the baldachino (canopy) over the high altar, and the altar of the cathedra (chair) of St. Peter behind it. This is the most astounding group of baroque works in any one place and the most complete expression anywhere of the Roman Catholic spirit in the later stages of the Counter-Reformation. Although Borromini's architecture was confined to a narrower compass, his small churches, such as SAN CARLO ALLE QUATTRO FONTANE (1638-41; 1662-67), with its undulating walls and facade and its highly original ornament, are in some ways even more ingenious than its larger baroque counterparts.

INFLUENCE IN NORTHERN EUROPE, IBERIA, AND COLONIAL AMERICA

Outside Italy and Flanders, the baroque was mainly a late 17th- and 18th-century phenomenon, although signs of it appeared earlier in most places. Each region interpreted the style in a different way. Probably its most radiant flowering was in Germany, in such churches as Vierzehnheiligen (Fourteen Saints; 1743-72), near Bamberg, by Johann Balthasar NEUMANN. In Spain and Portugal and their American colonies, the interpretation was more pious and popular, as can be seen in the painting by Bartolome MURILLO of the Immaculate Conception (c.1660; Prado, Madrid) or in the facade of Santiago de Compostela Cathedral (finished 1750), the plain surface of which is encrusted with carved forms partly of traditional Spanish origin. In France, full acceptance of the baroque was prevented by the cult of reason, which favored classical restraint, but the resulting "classical-baroque" style produced the greatest of all royal palaces, VERSAILLES (1669-1703). In the Protestant Netherlands the full baroque was confined to sculpture, but the art of REMBRANDT was affected by the style (The Night Watch, 1642; Rijksmuseum, Amsterdam). In Protestant England a temperate form of baroque was applied in the design of large country houses and, most notably, SAINT PAUL'S CATHEDRAL, London (1675-1708), by Sir Christopher WREN.

In the early 18th century the baroque gave way in France and Germany to the ROCOCO STYLE, and in the second half of the century both styles were superseded by NEOCLASSICISM.

Michael Kitson

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Chinese art and architecture

The arts of China encompass a large and diverse body of material spanning two millennia. From Neolithic pottery to posters produced by the communes of Huhsien county during the Cultural Revolution, its extent and artistic variety make the idea of continuity as much an illusion in Chinese art as it is in Chinese history. Nonetheless, certain enduring values are endemic to traditional Chinese life and are reflected in the form and aesthetic flavor of its artistic traditions.

During the 2,000 years preceding the revolution of 1912, China evolved a hierarchy of the arts that was but one aspect of the general structure of its society. The literary arts were at the summit (see CHINESE LITERATURE), followed by CALLIGRAPHY, the art of writing with brush and ink. Calligraphy's status was sometimes shared by the art of playing the Chinese lute, or qin. These arts were followed by painting, after which came chess and other scholarly pursuits. Manual crafts, including pottery, sculpture, and even architecture, were traditionally considered as products of mere artisans.

CALLIGRAPHY

Calligraphy, the noblest of the visual arts, was the most direct expression of that prodigious literacy that marked the elite of China. It was venerated even by the illiterate masses, and its values changed less over 2,000 years than those of any other art. Those who controlled the administration of the Chinese empire, and who therefore wielded the greatest influence over its evolution, cultivated the art of handwriting as an active element in the education of the scholar-gentry class. They ascribed to calligraphy the profoundest spiritual values and distinguished it completely from the technical labor of professional artisans. Yet no art has ever depended more upon technical expertise, acquired through the most arduous and prolonged effort.

Nature of Chinese Writing

To the modern eye, especially one ignorant of the Chinese language, the patterns emerging from calligraphic forms seem a remarkable precursor of abstract expressionism. Yet to the Chinese, calligraphy is a most potent flux of concrete imagery. It requires painstaking study of the calligraphy of others through endless copying; at the same time it emphasizes more than any other art the essential uniqueness of the individual's achievement.

The nature of calligraphy depends upon two principal factors, the script and the writing implement. In the Chinese language each word is written as a single, discrete symbol, or character. Characters can be written in several different scripts, which represent different stages in the evolution of the written language that took place over centuries. Instead of being discarded, these scripts were concurrently maintained by later calligraphers. This practice was a manifestation of the intensive study of the past that characterized most aspects of Chinese civilization. It molded both the content and nature of the art of calligraphy, which distilled the essence of an intense humanism. Venerating to a unique degree the written word as the preserver of their collective past, the Chinese thus have venerated handwriting as the most direct communication with the shared values of people in that past.

The materials of calligraphy are considered essential to proper performance. Contemporary sources record the invention of paper in China around AD 105. China's invention and use of paper, preceding its discovery in the West by 11 centuries, profoundly affected the development of calligraphy and eventually of painting. Although calligraphy was often written on silk, its most distinctive qualities emerged out of the reactions between the brush, ink, and paper. The finely pointed brush was usually made from goat or wolf hair. To be perfectly controlled, the brush had to be held essentially upright, so that its tip remained centered over the writing surface. The deep black ink used was mixed when required by rubbing on an ink stone a few drops of water and an ink stick made from pine soot and protein glue. The best paper was made from mulberry bark and imparted a deep glow to the readily absorbed ink. The Chinese honored each of these items as the product of a highly refined craft, and a precise sense of ritual accompanied their use. These attitudes were also adopted by painters, and in the practice and connoisseurship of these arts, a sensitivity to material qualities was essential.

Evolution of Chinese Writing

The earliest Chinese writing that can be read today dates from around the 13th century BC. Still earlier forms are as yet undeciphered. Two distinct forms are known from the earliest decipherable stage. A vividly pictographic script appears on the magnificent bronze vessels of the SHANG period (c.1600-1027 BC), having been engraved into the molds as dedicatory inscriptions. More complex texts in a much more abstract script were engraved by Shang diviners on ox scapulae and turtle plastrons, known as ORACLE BONES. The relationship between the

bronze and the oracle-bone script has not been clearly determined, nor have the many chronological and regional variations occurring over the ensuing millennium in many parts of China.

The QIN (221-206 BC), the first dynasty to unify China under centralized rule, produced a standardized script that came into use throughout the country. Later called small seal script (xiaojuan), it had evolved from an increasingly square regularization of the large seal script (dajuan) of the ZHOU dynasty (c.1027-256 BC), in which the Confucian Classics had originally been written.

Bureaucratic requirements during the HAN period (202 BC-AD 220) exerted strong pressure for greater simplification and standardization. The result was a new category of script called simply clerical script (lishu). The archaic seal script was often retained for formal titles and was also adapted to the small seals that have been used as signatures from the Han to the present. These small red stamps, often present on documents, letters, books, and paintings, may signify either authorship or ownership.

By the 4th century AD, the formal regular script (garshu), which is basically the printed script of today, and various abbreviated cursive scripts had evolved. WANG XIZHI (Wang Hsi-chih), the leading calligrapher of the 4th century, was revered by later generations as the "sage calligrapher" of all time. The TANG dynasty (618-906) was the classic age of regular script; its formality was ideally suited to the aristocratic splendor of that period. The running script (xingshu) had many of its greatest practitioners in the SONG dynasty (960-1279), when calligraphers and other artists explored new modes of self-expression with great originality. Much of the finest cursive script (caoshu) was written in the MING dynasty (1368-1644), when great attention was focused on the formal properties of art. In the later QING dynasty (1644-1911) the ancient seal script was revived by calligraphers such as I Pingshou (1754-1815). In this century, when Shang oracle bones were recovered after 3,000 years of obscurity, their archaic script was also translated into a brush-written form.

PAINTING

The earliest known examples of Chinese painting date from the Han dynasty (202 BC-AD 220), when the walls of temples and official halls were often painted with murals. Almost none of the early mural paintings survive, however, except for some within cave temples and on the walls of tomb chambers. Their style is closely related to the sculptured tomb reliefs of the period.

Through the Tang period (618-906), murals and large screens were probably the painter's main formats. Another format, that of the scroll, evolved concurrently and later became much more important in the history of Chinese painting. The earliest type of scroll painting was the horizontal handscroll. This was also the earliest form of the book, in use before a folding format—stitched down one side in a manner similar to the Western book—was developed in the Song period (960-1279).

To be viewed, the handscroll is placed on a table and the viewer unrolls it, length by length. Some handscrolls extend many feet in length. During the Song, vertical scrolls intended for hanging on a wall also became common.

Scroll painting was traditionally produced for the exclusive enjoyment of a small intellectual elite. Many of the early painters are known by name since they signed their works long before this practice became customary in the West. Names of many other artists are known from their mention in essays on art theory. Because the faithful copying of works of revered masters was commonly practiced in China, it is often possible to gain an impression of an artist's style even when no original paintings survive.

Han Through Five Dynasties Period

From the Han period through the 8th century, the principal subject matter of painting was the depiction of human figures as edifying exemplars of good character. Among the earliest recorded figure painters, much prominence is accorded GU KAIZHI (Ku K'ai-chih; c.344-406), to whom the earliest surviving scroll painting has been attributed. In this handscroll, entitled Admonitions of the Instructress of the Ladies of the Palace (British Museum, London), the artist's brush point, as fine as a needle, has delineated his subjects with an acute psychological sense. The people are embodied by their clothes, rather than by their flesh, and the floating draperies are similar in style to those of 6th-century Buddhist sculpture.

After the 8th century, in addition to paintings of human figures, birds and flowers became popular subjects. Bamboo and plum blossom became other special categories of painting, sanctioned by the strong symbolic value that these plant forms held for the literate class. SU DONGPO (Su Tung-p'o) and his teacher Wen Tong (d. 1079)

were famous early masters of bamboo art. Various other themes appeared in painting, but from the 10th to the 20th century, the subject honored above all was landscape. The tradition of landscape painting in China is inextricably bound with broad cultural values. Unlike the Mediterranean world, China had no mythology of anthropomorphic gods. The belief in a self-creating universe led rather to a mythology of landscape itself. Mountains and waters were the grandest of all the cosmic images, supporting each other in a dynamic polarity.

Song and Yuan Periods

The concept that the microcosm of man participates in the macrocosm of landscape is reflected in the tradition of monumental landscape painting that flourished during the Northern Song period (960-1127). In the enormous hanging scroll *Buddhist Temple in Autumn Mountains* (Nelson Gallery of Art and Atkins Museum, Kansas City, Missouri), attributed to the influential master Li Cheng (919-67), man is portrayed as but one small element within the enormity of nature. This theme underlies the styles of FAN KUAN (Fan K'uan), GUO XI (Kuo Hsi), and other great landscape painters of Northern Song.

The monumentality of Northern Song landscape was later transformed by the artists of the Southern Song court into poetic views of nature of marvelous subtlety. This change resulted in part from the move of the Song capital from Kaifeng, in the Henan region of North China, to Hangzhou, in Zhejiang, in the early 12th century. The northern painters had worked in a harder, clearer light. But among the marshes of the Chang Jiang (Yangtze River) delta, Southern Song academy painters such as XIA GUI (Hsia Kuei) and MA YUAN painted scenes depicting a moist climate, where mountains floated elusively over mists, as in Ma Yuan's evocative *Bare Willow and Mountain in Mist* (Museum of Fine Arts, Boston). Another school of Song painting was that of the Chan (Zen) Buddhist masters, who produced boldly outlined works of great simplicity and spontaneity. A notable example is the *Six Persimmons scroll* (Daitoku-ji, Kyoto) by the versatile monk-painter MUQI (Mu-ch'i).

A concern with self-expression that had surfaced in other arts during the Song, notably in poetry and calligraphy, began to be explored in the Yuan (1279-1368) through the medium of landscape painting. The pioneer in this development was the calligrapher-painter ZHAO MENGFU (Chao Meng-fu), active in the late 13th and early 14th centuries. From this date the relationship between calligraphy and landscape painting became even closer. Painters began to talk of "writing" a picture. An already existing preference for painting without color, in ink alone, became stronger. In order to exploit a full range of ink tonalities, artists came to prefer executing paintings on paper instead of on silk, which absorbs ink more uniformly. In the Yuan the results were mainly an increasing emphasis upon the actual process of painting and a readiness to recognize styles of individual artists as a form of handwriting. Outstanding exponents of this new approach to painting were the landscape painters HUANG GONGWANG (Huang Kung-wang), NI ZAN (Ni Tsan), WANG MENG, and WU ZHEN, collectively known as the Four Great Yuan Masters. The practice of combining painting and calligraphy in a single composition also became more common.

Ming Period

In the Ming dynasty (1368-1644) the entire process of image making became more calligraphic. Since painters had always used a brush and ink similar to the calligrapher's, they had always tended to build their forms out of the basic brushstrokes used in forming Chinese characters. Now these tendencies were systematized, and the more representational values in pictorial art were often rejected in favor of a greater abstraction of form. Some Ming painters, such as the influential master and art theorist DONG QICHANG (Tung Ch'i-ch'ang; 1555-1636), declared that ultimately calligraphy and painting were the same *dao* ("way").

Ming artists believed that exemplars from the past could provide aesthetic standards for the present; as a result the styles of many past masters were kept alive as options within the painter's contemporary vocabulary. Innumerable works are signed as "in the manner of" some earlier artist. The Wu school, an important school of Ming landscape painting founded by SHEN ZHOU (Shen Chou) was based on these values.

Dong Qichang's handscroll *Autumn Mountains* (Cleveland Museum of Art, Cleveland, Ohio) is a transformation of two earlier masterpieces, one by the 10th-century artist Dong Yuan, and one by the Yuan artist Huang Gongwang (1269-1354). Dong Qichang turned principally to these two exemplars in establishing an amateur tradition of painting, called the Southern school, that greatly influenced the development of later Chinese painting and orthodox art criticism. This school reflected the values of the scholar-gentry elite, who practiced art as a pastime rather than as a profession. Although they recognized the role of technique in calligraphy, Dong and other literati artists slighted the professional painter's technical skill and the frequently decorative quality of his work. They associated these so-called professional values mainly with two groups of artists: the court academy painters of the

Southern Song period, such as Ma Yuan, and the early Ming painters of the imperial court and of Zhejiang province (collectively known as the Zhe school painters), such as DAI JIN (Tai Chin) and his followers. From a broader viewpoint, however, these professional painters represented the same world, using the same techniques of brush and ink, that the scholars did. Not only are their paintings often of the highest quality, but they also contributed much to the styles of the scholars, whether acknowledged or not.

Qing Period to Present

The first century of Qing rule (1644-1911) was the last period of great creativity in traditional Chinese painting. The orthodox Southern school tradition of Dong Qichang culminated in the styles of the so-called Four Wangs (see WANGS, FOUR). The most gifted of these four artists was Wang Yuanqi (Wang Yuan-ch'i; 1642-1715), whose powerful architectonic forms have often been compared to those of the French modernist painter Paul Cezanne. Another large and varied group of artists, who are often grouped by the cities they most frequented, were less concerned with broad, historical developments, and pursued more individualistic aims. The best known of these artists were ZHU DA (Chu Ta), K'un Ts'an (1610?-93), and SHITAO (Shih-t'ao), a scion of the Ming royal house, who lived his art partly as a protest against the Manchu conquest of 1644. Scholar-artists of the Qing period often tried to maintain a fiction that they never earned money from their paintings. But in the 18th century, with painters such as Jin Nong (1687-1764) and Lo Ping (1733-99), both classed among the "Eight Eccentrics of Yangzhou," this pretense was abandoned as a merchant society of vastly increasing wealth became an important patron.

Although Western techniques of painting were introduced in China in the late 19th century, the prestige of brush painting and brush writing survives. The calligraphy of MAO ZEDONG has been much displayed and honored. The calligraphy of Chairman HUA GUOFENG is compared to that of the Tang statesman Yen Chenqing (709-85), who enjoyed great fame as both an administrator and a calligrapher. Twentieth-century masters of Chinese painting in the traditional mode include QI BAISHI, ZAO WOUKI, AND LI KERAN.

TECHNOLOGY AND CRAFT: BRONZE, LACQUER, TEXTILES, AND JADE

For thousands of years the applied arts in China have revealed a high level of refinement and technical mastery. The Shang dynasty (c.1600-1027 BC) established rule over the Central Plains region of the Hwang He (Yellow River) about the time that North China entered the Bronze Age. By the time the Shang was defeated by the Zhou dynasty (c.1027-256 BC), one of the most remarkable of all Bronze Age arts had been perfected.

Ritual Bronzes

The small but powerful Shang aristocracy required vessels for such rituals as the ancestral sacrifices. Craftsmen in the new centers that marked the birth of the city in China—for example, the last two Shang capitals located at present-day ZHENGZHOU (Cheng-chou) and ANYANG—responded magnificently to these demands. Building on a well-developed ceramic technology, they made clay models with an inner energy of form held by taut contours, and carved them with dense patterns of extraordinary precision; from these models, which often bore inscriptions, section molds of clay were taken and molten alloy was poured into the final assembly of the molds.

Some of these ritual vessels, which were designed mainly for holding and heating meat, grain, and wine, are of a universally practicable shape. Others belong to a uniquely Chinese type. Almost all have such powerfully architectonic shapes as to seem monumental, even when no more than 15 cm (6 in) high, like many jue. The largest are the rectangular, quadruped ding, one of which is more than 1.2 m (4 ft) high and weighs 800 kg (1,750 lb).

The surface decoration of most of the bronzes is formed largely from fragmented zoomorphic motifs combined among densely repeated spirals. Their combination is often dominated by one recurring image, the taotie monster mask. By the late Shang a profusion of knoblike protuberances and other exaggerated three-dimensional effects characterized much bronze decor.

Although the manufacture of bronze vessels remained an important craft under the Zhou dynasty, fundamental changes took place in the nature of the art. Old forms died and new technologies arose. The Shang rituals and their most distinctive vessels were abandoned by the Zhou, who celebrated their own, frequently more political ceremonies. Inscriptions lengthened into major historical documents. In addition, the late Zhou bronzes were sometimes inlaid with gold and silver as were the backs of bronze mirrors, produced from about 600 BC. The decoration of bronze mirrors reached a peak during the Han period, after which the art of bronze casting declined.

Lacquer

The upper and middle reaches of the Chang Jiang (Yangtze River) were the habitat of the lac tree (*Rhus verniciflua*), the sap of which may have been used for paint as early as the Shang dynasty. By the late Eastern Zhou period (770-256 BC), LACQUER was used extensively for preservative and decorative purposes on many articles, such as bowls, musical instruments, and furniture. The kingdom of Qu, on the middle Chang Jiang, was a major early center of this art, the motifs of which were often similar to those used in gold and silver inlay on bronzes. In the Han dynasty (202 BC-AD 220) imperial lacquer factories were set up in the Sichuan region. By the time of the Tang dynasty (618-906), lacquer was also used in modeling life-size, hollow-cored statues. In the 14th century and later, lacquer objects were frequently carved. In this technique the thickness of the lacquer had to be built up from as many as 200 layers. Red and black were the most common colors, sometimes applied in alternating layers. Lacquerware was also produced with representations of landscapes and figures inlaid with mother-of-pearl and precious metals.

Textiles

The weaving of silk was a distinctive craft of China as early as the Shang dynasty. From the Han dynasty the great overland trade routes that linked Mediterranean countries with China were founded on silk and other products of the Chinese artisan. Sericulture was long unique to China. Rome knew China as the "Silk Lands," and Han dynasty silks graced Roman aristocrats.

The SILK ROAD leading from Chang'an in China across Central Asia also brought innumerable merchants and craftsmen from western lands to China. The designs on Tang textiles show extensive influence from Sassanian and other western sources. Also introduced from non-Chinese textile traditions was the process of weft-woven tapestry, in which colors are woven within limited areas instead of from selvedge to selvedge. The adaptation of tapestry weave, called kesi, became the greatest glory of the Chinese weaver's art, perhaps because it proved so suitable for translating paintings and calligraphy into textiles. Kesi influenced, in turn, medieval European textile traditions.

Jade

In China jade was traditionally the most valued of all minerals. Jade is so hard that it cannot be cut, only ground away. The earliest abrasive known to have been used was quartz powder, presumably the material used by the Neolithic jade workers. Many jades have been found dating from the Shang dynasty. Worked with the same precision as were ritual bronzes, they were presumably used as ceremonial instruments and to adorn aristocratic dress. Some of the best known jade forms from Neolithic through late Zhou times functioned as ritual symbols; for example, the pierced disc (bi) signified the heavens, the squared tube (zong), the earth.

During the Eastern Zhou period (770-256 BC) the working of jades became increasingly elaborate, with finely detailed pierced designs. This fine work probably became possible with the introduction of much more effective rotary tools after cast iron was developed in the 6th to 5th centuries BC. Such pieces are one aspect of the magnificent flowering of decorative arts at that time. From the Han dynasty on, jades were generally much less spectacular. Most frequently they are small, sculptural pieces, similar to work in other materials, such as bamboo and rhinoceros horn. During the Qing dynasty (1644-1911), especially under the emperor Gaozong in the Qianlong (Ch'ien-lung) era (1736-95), jade carving became an important aspect of an explosive renaissance of craftwork.

CERAMICS

Neolithic pottery, which was not discovered until the 1920s, is the earliest form of Chinese art known today.

Early Wares

The wide-bellied, narrow-necked burial jars from Gansu province, their upper halves painted in red and black with powerful spirals, waves, and zigzags, are dated from about 2400 BC. The Gansu ware is a late phase of the Yangshao pottery that originated in the early 5th millennium BC among the loess-covered hills around the junction of the Hwang He and the tributary Wei. The Yangshao culture is considered the nuclear origin of Chinese civilization. Dating from the early 2d millennium BC is the Longshan culture, which originated in the coastal region of Shandong. This culture produced a distinctive black ware, its sharply articulated, angular shapes turned to eggshell thinness of body on a fast wheel and burnished to a glossy black. The Bronze Age evolved where the Yangshao and Longshan overlapped in the central Hwang He plains.

Although the bronze art of the following millennium largely eclipsed its contemporaneous pottery, during the Shang important technological advances occurred in kiln design, in clay composition (the introduction of pure white kao-lin), and in glazing techniques. In the Han dynasty (202 BC-AD 220) wares with a hard, feldspathic glaze became common. The brownish-green, gray-bodied ware, which was especially characteristic of the southeastern region of Zhejiang, developed into a high-temperature-fired stoneware by the 6th century AD. Pottery manufacture was widely dispersed over the whole of China by this time.

From the period of the Han dynasty but especially during the Tang (618-906), lead glazes were used extensively to decorate clay objects made for burials. Combining with various metallic oxides, they make possible a dazzling range of colors. Tang burial wares are often ablaze with up to four glazes, which were splashed and allowed to run with an extraordinary freedom over the body of the figurine or vessel. Such glazes fell into disuse soon after the Tang and were forgotten until the modern age.

Classical Wares of Song

The Song (Sung) dynasty (960-1279) is considered the classic age of Chinese ceramics. The perfection of Song forms arises from their organic balance and dynamic fullness as contrasted with the geometric perfection of classical Greek vases. Most Song bowls and vases are covered with largely monochromatic glazes, with decoration often incised or impressed under the glaze. Famous wares include the ivory-white Ding ware, descended from the famous white ware of the Tang; jadelike CELADON, used for official and commercial purposes throughout China; sky-blue Ru ware, made for the imperial court of Huizong; its relative, Jun ware, with the varying blue of its thick glaze often enlivened by submerged swirls of purple; small, heavily potted Jian ware tea bowls, with dark red, brown, and black glazes speckled over coarse clay; slip-painted and sgraffito Cizhou wares, with superbly vigorous floral and pictorial decoration. These and other regional wares evolved strong artistic personalities; most have been traditionally associated with single kiln sites, hence their names, but they are now known to have been made in many places.

The technical perfection of Song ceramics was largely based on the Song artisan's mastery of a simple, iron-pigmented, feldspathic glaze. Depending on the firing, it varies from the rich black of saturated oxidation, through deep red, to endlessly subtle green shades of reduction. Not until the Mongol conquest of China and the Yuan dynasty (1279-1368) did the use of other minerals in feldspathic glazes become dominant.

Ming and Qing Wares

The blue-and-white ware resulting from cobalt pigment, originally imported from Iran during the Yuan period, initiated another great era in ceramics production that reached its peak in the Ming dynasty (1368-1644). Many of the Song wares had been stonewares, but most of the important Ming and Qing (1644-1911) wares were porcelain. The potters of blue-and-white ware perfected a method of painting with cobalt under a transparent glaze. Their decorative skills reached the highest refinement and complexity and their products were exported eastward and westward in large quantities, immensely influencing European and Near Eastern wares.

The town of Jingde Zhen (Ching-te-chen), in Jiangxi province, became the center for imperial Ming kilns. In the Qing dynasty, under the KANGXI (K'ang-hsi) emperor (r. 1662-1722), these kilns were reorganized and commenced a final golden age, culminating under the Qianlong emperor, Gaozong (r. 1736-95). Numerous decorative styles were perfected by imperial potters and their provincial cousins during the Ming and Qing dynasties. New monochromes, such as yellow and red, were developed, as were a magnificent range of multicolored, overglaze enamels. From the 18th century on, Qing porcelains decorated in famille rose (rose pink), verte (pastel green), and noire (black) filled the mansions of China and Europe alike. Much of the Chinese porcelain intended for export was decorated with European-inspired motifs and in many cases was made according to European order.

SCULPTURE

Sculpture of the Shang (c.1600-c.1027 BC) and Zhou (c.1027-256 BC) periods is generally small in scale, carved in marble and other materials, and depicts human or animal forms. Such sculpture was presumably intended for ritual use.

Burial Sculpture

During the Han dynasty (202 BC-AD 8) sculptures associated with the veneration of the dead were produced in great quantities. These burial sculptures were of three types. The first category is the low-relief sculpture used to decorate the walls of the burial chamber, mostly representing scenes of daily life. The second category consists of small fired-clay sculptures that were placed inside the tomb. These objects reproduce in small scale an amazing spectrum of the everyday world of the Han period, from castles and other architectural forms to barnyard pets. This tradition reached its apogee during the Tang (618-906). Although the subject matter became more limited than in the Han, the sculptural quality of Tang mortuary ware is unsurpassed in its mastery of naturalistic modeling. Figures of dancers, polo players, and horses were imbued with an extraordinary sense of life and movement. The cosmopolitan culture of Chang'an, the Tang capital, with its camels and western merchants, also was depicted in these tomb models.

The third category of burial sculpture is the monumental carved statuary of animals and guardian figures that line the processional ways leading to important tombs. Much more small mortuary sculpture has survived from the Han and the Tang than has monumental statuary of the same periods. Although the relationship between the two traditions is not yet clearly understood, mortuary ware was possibly the earliest source for works of monumental sculpture. Recent excavations at the tumulus of the First Emperor of Qin (d. 210 BC), near Xian in Shaanxi province, have revealed a vast field of life-size terra-cotta statues depicting soldiers, servants, and horses, estimated to total 6,000 pieces. A sense of great realism is conveyed in the figures with remarkable simplicity. Their size and style is very different from the mortuary sculpture of the succeeding Han period.

Buddhist Sculpture

By far the largest body of Chinese sculptural art is associated with BUDDHISM, which reached China from India some time in the 3d century AD. From then through the Tang period, Buddhism flourished in China, combining with indigenous traditions in thought and art. Sites such as the cave temples of DUNHUANG (Tun-huang), an oasis town at the gateway between China and Central Asia, vividly preserve in murals, monumental stone sculpture, bronze Buddha images, and even silk banners the development of Chinese Buddhism between the 5th and 9th centuries.

The first mature phase of Chinese Buddhist sculpture dates from the early 6th century and is characterized by highly spiritualized images of the Buddha, such as the famous gilt-bronze statuette of Shakyamuni Buddha (Metropolitan Museum, New York), dated from the Northern Wei dynasty (386-535). In the later 6th and the 7th centuries Chinese sculpture underwent many chronological and regional variations, relating to both external and internal influences. Early in the 8th century these culminated in the flowering of an international style, which spread from India across to China, through Korea and into Japan. In this family of styles, the body is endowed with a tightly structured, muscular presence, articulated with graceful ease, and lightly clothed in garments which may both cling to its form and swirl loosely free. The confident grandeur of the limestone Seated Buddha from Tianlongshan (8th century; now in the Fogg Art Museum, Cambridge, Mass.), still imbued with a spiritual idealization, is superbly expressive of the golden age of Tang. In addition to stone, such statues were also made of clay, wood, bronze, and lacquer, although few examples survive. In 845 a nationwide persecution of Buddhism destroyed the majority of Buddhist temples and their contents. Fine Buddhist sculpture was again made in the Song (960-1279), Yuan (1279-1368), and Ming (1368-1644) dynasties, although it never again reached its former stature.

ARCHITECTURE

With the exception of the monumental rock-cut cave temples, such as those constructed at Dunhuang, LONGMEN, and YUNGANG, the temples associated with Buddhist sculptures were not built for permanence, and few have survived. Most architecture, both religious and secular, was constructed primarily of wood, on a simple post-and-lintel basis that favored marvelous elaboration. Important exceptions were the celebrated GREAT WALL OF CHINA, built during the Ming dynasty (1368-1644) on the foundations of a 3d-century BC defensive wall, and pagodas (see PAGODA), tombs, and bridges constructed of stone or brick. The Chinese could build well with these materials; they were particularly advanced in certain forms of arch construction.

Architectural form remained basically the same for well over 2,000 years. Burial-ware models provide considerable evidence from the Han dynasty (202 BC-AD 220). Illustrations engraved on bronze vessels and other archaeological remains provide even earlier evidence. Instead of supporting the roof with a rigidly triangulated truss as in the Western timber-frame construction, the Chinese did so with crossbeams in tiers of diminishing length. This was an extremely flexible system, promoting both a great extension of the eaves and the concave roof line so typical of Chinese architecture. The overhanging eaves were supported by a series of cantilevered brackets. The many elements of this wood frame were often elaborately painted and the roof itself covered with

colorfully glazed tiles. The curved roof and complex structural bracket style in architecture reached its peak in the Song dynasty (960-1279). A few temple buildings still survive from that period. In the Ming (1368-1644) and Qing (1644-1911) periods, the roof line tended to straighten. The brackets became largely decorative and the buildings more static and massive in proportion, with a greater use of masonry. A sharply curved roof was still used in small, fanciful pavilions.

Little architecture of the Ming period and scarcely any of earlier periods has survived. An important exception is the so-called Forbidden City, the former imperial palace in Beijing. It was built by the Mongol rulers of the Yuan dynasty (1279-1368) in the district where several earlier dynasties had located their capitals. The Ming entirely rebuilt the complex, as did the succeeding Qing rulers to a large extent. The succession of shining, tiled roofs and the hierarchic arrangement of seemingly endless courtyards, corridors, and halls were designed as the representation of a vast cosmic order.

TWENTIETH-CENTURY DEVELOPMENTS

Chinese art, especially painting and calligraphy, showed remarkable vitality and a new spirit of innovation throughout the 19th and well into the 20th century. From the early 1900s, Western influences were openly acknowledged. After the establishment of the Communist state in 1949, however, the authorities refused to tolerate any taint of the West in Chinese art except for SOCIALIST REALISM, imported from the USSR.

The 1980s saw a sporadic softening of official attitudes. Some Chinese avant-garde artists have been allowed to exhibit, and a few Western artists have shown their works in China. Subjects that were once forbidden—nudes, for example, or portraits of the poor—may sometimes be shown without official censure. Artists interested in Western genres experiment in their studios with cubism, surrealism, and abstract art; many are attracted by such realist painters as Andrew Wyeth. Few succeed, however, in giving a Chinese aspect to their borrowings from the West.

Since 1980 there has been a significant exodus of artists from China to the West. Perhaps they will be able to establish modern idioms that are truly Chinese.

John Hay

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German art and architecture

German art and architecture, as defined in this article, refers to the artistic production of the many principalities and kingdoms that were united into a single German state in 1871. The art and architecture of Austria, although they share the same German cultural heritage, are treated in a separate article (see **AUSTRIAN ART AND ARCHITECTURE**).

CAROLINGIAN PERIOD

The roots of German art lie in Charlemagne's (r. 768-814) attempt at restoring, along Christian lines, the ancient grandeur of the Roman Empire. Mirroring this ideal, **CAROLINGIAN ART AND ARCHITECTURE** blended classical and Early Christian forms and styles (see **EARLY CHRISTIAN ART AND ARCHITECTURE**). The monumental Palace Chapel (consecrated 805) at Aachen (French: Aix-la-Chapelle), Charlemagne's northern capital, reproduced the octagonal central space and domed vault decorated with **MOSAICS** of the Early Christian basilica of **SAN VITALE** in Ravenna, Italy. Similarly, the gatehouse, incorporating a **TRIUMPHAL ARCH** of three bays, of the monastery at Lorsch (c.774) is one of numerous imperial buildings modeled after various parts of Old **SAINT PETER'S BASILICA** in Rome. The imperial monasteries at Fulda (founded 774), Hersfeld (founded 831), and Seligenstadt (founded 828) also emulated the basilican plan (see **BASILICA**). New developments were also taking place, however: at the basilicas of the monasteries at Centula (Saint-Riquier, 790-99), Corvey (873), and Werden (943), elaborate new entrance structures called westworks, consisting of massive, fortresslike **FACADES** flanked by twin towers, made their first appearance.

OTTONIAN PERIOD

Under Otto I (r. 936-73), who established the Holy Roman Empire, Hildesheim and Magdeburg in central Germany became the most important centers of the first flowering of a truly German art (see **OTTONIAN ART AND ARCHITECTURE**). As Otto I struggled to integrate independent-minded bishops into his empire, building activity shifted to the episcopal cathedrals, such as those erected at Magdeburg (begun 955) and Mainz (begun 975). The basic design of these structures—two choirs and a large **TRANSEPT**—recalls that of the Constantinian basilicas. So influential was this building type that the unvaulted basilica of Saint Michael's in Hildesheim (1001-33), with its two choirs, **NAVE** flanked by aisles, two transepts, and groups of dual towers, served as an exemplar for German architecture over the next two centuries.

Ottonian manuscript illumination (see **ILLUMINATED MANUSCRIPTS**), which reflects Byzantine influence, flourished at Reichenau, where the famous Gospels of Otto III (c.1000; Bayerische Staatsbibliothek, Munich) was produced, along with the only surviving series of Ottonian monumental paintings, the Miracles of Christ (950-75; Oberzell, Reichenau). Goldsmiths in Trier, Fulda, and probably Essen played a leading role in making Ottonian goldwork, whose light and luminous materials reflect the spirituality of the day (see **GOLD AND SILVER WORK**). Deeply felt religious emotion also lay behind the expressive realism of Ottonian sculpture. The Byzantine-inspired modeling of the Gero Crucifix (c.975; Cologne Cathedral) cannot mask the intense emotion conveyed by the sculptor, an emotion similar to that expressed so forcefully in the biblical scenes in relief of the two monumental bronze doors, now in Hildesheim Cathedral, commissioned (1015) by Bishop Bernward for Saint Michael's Church in Hildesheim (see **BRONZES**). The expressionism so apparent in these two works has ever since remained a strong current in German art.

ROMANESQUE PERIOD

The reign of the Salian emperors (1024-1125) witnessed a spate of building activity, particularly in the flourishing urban centers of the Rhineland. In the cathedrals of Speyer (begun c.1030) and Goslar (begun c.1050), some Romanesque elements are incorporated into the continuing tradition of the Carolingian-Ottonian basilica (see **ROMANESQUE ART AND ARCHITECTURE**). Romanesque vaulting (see **ARCH AND VAULT**) and restrained architectural sculpture in the classical mode differentiate the Speyer Cathedral, in particular, from its predecessors. The 12th century marked the flowering of High Romanesque architecture, characterized by vaulting and sculptural articulation of the walls. The cathedrals of Mainz (c.1100), Worms (c.1100), and Bamberg (begun c.1205) are the most prominent examples. Romanesque architectural sculpture was slower to penetrate into Germany, and in its formal appearance, in the Freudenstadt lectern (c.1150; Freudenstadt Parish Church), seems closer to the sacral loftiness of Ottonian art than to the new humanism of the Gothic style then developing in France.

The most important centers of Romanesque goldwork and metalwork were Cologne, Hildesheim, Braunschweig,

and Magdeburg. Workshops in Magdeburg produced the Novgorod Cathedral's bronze doors (c.1150; originally made for the cathedral in Plock, Poland) and the only surviving medieval sculpture in the round—a monumental lion cast in bronze that Duke Henry of Saxony (Henry the Lion; 1129-95) had set up in front of his Braunschweig castle in 1166. Equally famous is the workshop of NICHOLAS OF VERDUN whose Klosterneuburg Altar (1181; Stiftskirche, Klosterneuburg) and Shrine of the Three Kings (1186-96; Cologne Cathedral) are two of the richest examples of goldwork in the Hohenstaufen period (1138-1268).

THE GOTHIC PERIOD

French Gothic style, as manifested in portal sculpture, in vaults with an ogival arrangement of groins, and in STAINED GLASS, was late in gaining ground in Germany, where the late Romanesque tradition persisted (see GOTHIC ART AND ARCHITECTURE). French stonemasons brought the early Gothic sculptural style from Chartres to STRASBOURG CATHEDRAL, where the south transept portal and the pillar known as the Piliers des anges (1225-30) reflect the iconography and style of the Reims school. At about the same time, another group of Reims-influenced sculptors executed (1237-52) the Bamberg Rider and the Visitation group for Bamberg Cathedral. The elegance and lightness of High Gothic SCULPTURE, however, did not fully replace the monumentality of German Romanesque until the appearance of the portal sculptures of Magdeburg Cathedral (c.1247) and the lectern sculptures and donor figures in the west choir of Naumburg Cathedral (1249-70). These important figural cycles are placed not on the facade, but in the interior, and their artistic form results from the tension between the Byzantine tradition of book illumination and wall painting and the newer forms of French Gothic.

Architecture

Germany's important Gothic architectural achievements belong to the Late Gothic era: the Liebfrauen Church in Trier (begun c.1240); Cologne Cathedral (begun 1248); and the nave and exterior of Strasbourg Cathedral, whose western facade (1284-93), by Erwin von Steinbach, would be glorified by Johann Wolfgang von Goethe and the German romantic artists (see ROMANTICISM, art). This period is characterized by what Nikolaus Pevsner calls the "contrast between the dreamy romanticism of the interior and the concise lucidity of the exterior," for which the term Sondergotik has been coined.

Other German contributions to Gothic art include the one-tower facade—a German form inherited from the Romanesque—as in the Freiburg im Breisgau Minster (1275-1350); north German brick architecture, the finest example of which is the Church of Saint Mary in Lübeck (1291); and the so-called hall churches, ecclesiastical structures in whose unified interiors the nave and aisles were of equal height. In the 14th century the hall church became the spatial trademark of Germany, and even in the 15th and 16th centuries this remained one of the most favored building types. The Parler family, a Swabian family of architects and sculptors, brought this new architectural design to Nuremberg, Ulm, and Prague. Perhaps the most significant artistic contribution of the Parlers, however, was the group of 21 portrait busts carved (1374-85) by Peter Parler (1330-99) for the TRIFORIUM of the Cathedral of Saint Vitus in Prague. This group has been called one of the principal forerunners of modern sculptural portraiture.

Painting and Sculpture

In the latter part of the 14th century, panel PAINTING assumed a prominent position in German art. The first well-known German panel painters were the Bohemian artists known as the Master of Hohenfurth (fl. c.1350) and the Master of Wittingau (fl. c.1380-90), whose works reveal the influence of the 14th-century painters of Siena. The courtly INTERNATIONAL STYLE in art, generally prevalent in Europe around 1400, made only a fleeting appearance in Germany. The expressive realism first noticeable in Ottonian sculptures, and preserved and amplified in wooden sculptures of the Romanesque and early Gothic periods, reappears in the 15th-century paintings of MASTER FRANCKE in northern Germany. This native tradition, heavily influenced by such Flemish masters as Jan van EYCK and Robert CAMPIN (the Master of Flemalle) developed into the Late Gothic realism espoused by Lukas Moser (fl. c.1430) and Konrad Witz (c.1400-44). This movement found its figural counterpart in the sculptures of Hans MULTSCHER, Bernt Notke (c.1450-1509), and Nikolaus Gerhaerts van Leyden (fl. 1460-73), whose presumed Self-Portrait (c.1467; Musée de l'Oeuvre Notre-Dame, Strasbourg) represents realism raised to expressiveness.

THE RENAISSANCE

Toward 1500 the art forms developed by Italian Renaissance artists, who viewed nature organically but within the

idealizing framework of classical art, made their way into Germany. Abetting this infiltration of Italian ideas and styles were study trips to Italy by German artists; the hiring of Italian artists by northern patrons; and extensive commercial connections between German cities such as Augsburg, Nuremberg, and Basel, and Italian cities such as Florence, Milan, and Venice. No renaissance, in the sense of a conscious renewal of its classical heritage, took place in Germany because the continuing influence of Gothic traditions prevented the development of a homogeneous German style in the 16th century. These circumstances, however, did foster a rich variety of artistic styles and forms throughout Germany. In the GRAPHIC ARTS, the crafts, the plastic arts, and the schools of painting, the outpouring of forms and ideas from the Italian Renaissance combined with the indigenous German medieval tradition in a variety of ways. In the cities the fine arts flourished, and artists began to free themselves from the constraints of one particular craft, becoming conscious of the uniqueness of individual creativity and, frequently, becoming active in more than one field (see RENAISSANCE ART AND ARCHITECTURE).

Painting

The Renaissance ideal of the Universal Man found its German exemplar in Albrecht DURER—woodcutter, engraver, painter, publisher, theorist and teacher of art, designer of fortifications, scientist, and humanist. Durer's graphic art, including his so-called Master Engravings (1513-14), his great woodcut cycles in book form, and his 16 scenes in the copperplate Engraved Passion (1513), took much of their inspiration from Italian art, but eventually exerted a strong influence south of the Alps as well. The same interplay between German and Italian art takes place with Durer's drawings and paintings, from his early Self-Portrait (1493; Louvre, Paris) to his monumental Four Apostles (1523-26; Alte Pinakothek, Munich). In addition to panel paintings, ENGRAVINGS, and woodcuts (see WOODCUTS AND ENGRAVINGS), Durer tried his hand at intimate BOOK ILLUSTRATIONS, as in The Emperor Maximilian's Prayer Book (1515; Staatsbibliothek, Munich).

It would be difficult to overestimate Durer's impact on German art, for he was the chief conduit through which the lessons of the Italian Renaissance flowed into the artistic traditions of his native land. Each German artist responded in a unique fashion to the impact of Renaissance ideas and forms. Durer's numerous representations of nudes reflect and develop the Renaissance ideal of the harmoniousness of human proportions. At the same time, however, Hans BALDUNG-GRIEN introduced a pessimistic memento mori into his Death and the Woman (1517; Kunstmuseum, Basel), and the disturbing reminder of mortality effectively undermines the harmony of the nude study. In panel painting, the huge nine-paneled Isenheim Altarpiece (1512-15; Unterlinden Museum, Colmar) by Matthias GRUNEWALD (Mathis Gothart-Nithart) represents a rejection of Renaissance humanism in favor of Late Gothic expressionism. In this work the use of vivid colors and glowing light bring the late medieval visions of temptation and martyrdom to a fierce pitch of expressive monumentality. Although Grunewald's work contrasts strongly with that of Durer, the two artists can be seen as complementary, each representing different aspects of German art in a time of cultural upheaval.

Notable in this golden age of German painting are the humanist portraits of Hans HOLBEIN the Younger; the landscape paintings of Albrecht ALTDORFER, whose Danube Landscape near Regensburg (1520; Alte Pinakothek, Munich) may have been the first pure landscape in Western painting; and the works of Lucas CRANACH the Elder.

Sculpture

In sculpture, the Renaissance period witnessed the apogee of German bronze casting in the Nuremberg workshop of Peter Vischer the Elder (see VISCHER family), whose reliquary Shrine of Saint Sebald (1507-19; Church of Saint Sebald, Nuremberg) is embellished with decorative Renaissance motifs. Vischer, his sons, and several other sculptors also developed a German version of Renaissance monumentality in the group of 28 larger-than-life bronze statues for the tomb of Emperor Maximilian I (1508-50; Hofkirche, Innsbruck). Aside from Michelangelo's plan for the tomb of Pope Julius II, the Maximilian project was the largest monument of its kind made in the early 16th century.

BAROQUE AND ROCOCO PERIOD

The heroic age of German art soon ended, as bronze casting came under Italian and Dutch influence, ecclesiastical architecture flagged under the effects of the Reformation, and the graphic arts came to be used mostly for illustrations and reproductions. In painting, Adam ELSHEIMER followed in the footsteps of Altdorfer with a series of small-scale history paintings and superb landscapes, such as the nocturnal Flight into Egypt (1609; Alte Pinakothek), which had an important influence on 17th-century Dutch and Flemish painting. The destruction wrought by the Thirty Years' War, however, practically eliminated artistic production in the first half of the 17th

century.

After 1650, German architecture can be divided geographically into that of the Protestant north, influenced by the Low Countries and France, and that of the Roman Catholic south, influenced by Italy. Baroque tendencies appeared in German architecture, but a distinctly German baroque style quickly developed into the last peak of the European baroque in ecclesiastical and palace architecture (see **BAROQUE ART AND ARCHITECTURE**). In Berlin, Andreas SCHLUTER began (1698) to build the Royal Palace (destroyed 1945), the epitome of the severely monumental character of the German high baroque style. Schluter also produced the finest example of German baroque sculpture, the large equestrian group of the Great Elector (1696-1709; Charlottenburg Palace, Berlin). In Saxony, Matthaus Daniel POPPELMANN, working from French models, achieved a sublime harmony of ornamentation and spatial design and of interior and exterior in his Zwinger (arena) of the Dresden Palace (1711-22), one of the high points of the late phase of baroque architecture called **ROCOCO STYLE**.

Regional styles of rococo architecture also evolved in southern Germany. Johann Balthasar NEUMANN, in WURZBURG RESIDENZ (begun 1719) and Schloss Bruchsal (begun 1728), with their technically and artistically unparalleled staircases, used pictorial and illusionistic devices to achieve breathtaking effects. At about the same time Dominikus ZIMMERMANN, especially in his Bavarian pilgrimage church known as Die Wies, or Church in the Meadow (1745-54), created an integrated and fluid spatial design of rich beauty. In nearby Munich the Bavarian court architect Francois CUVILLIES created many exuberant rococo buildings, including the famed AMALIENBURG PAVILION (1734-40) with stucco decoration by Johann Baptist Zimmermann (1680-1758), the elder brother of Dominikus Zimmermann. The richly inventive works of Cuvillies, Neumann, and the brothers Zimmermann capped the festive German rococo era, which also manifested itself in the southern German rococo sculpture of Ignaz GUNTHER and in the first European porcelain manufactory, in Mainz (founded 1710).

NEOCLASSICISM AND ROMANTICISM

Toward the end of the 18th century, under the leadership of the art historian Johann WINCKELMANN, the painter Anton Raphael MENGES, and the poet Goethe, German artists and sculptors sought to escape what they considered the decadence of the rococo movement by taking inspiration from classical or Gothic art. Menges's Parnassus (1761; Villa Albani, Rome) illustrates Winckelmann's program of **NEOCLASSICISM** in art, to which the painters Asmus Jacob Carstens (1754-98) and the Swiss-English Henry FUSELI, influenced by the **STURM UND DRANG** ("storm and stress") movement, added Romantic variations (see **ROMANTICISM**, art).

Apart from the universally influential writings of Winckelmann and Goethe, the German neoclassical and romantic movements lacked cohesion, a recurring phenomenon in German art until 1871, when the country was unified politically. Just as Gottfried SCHADOW and Christian Daniel RAUCH represented different tendencies in neoclassical sculpture, German romantic painting was divided into varied and contrasting trends. The romantic mood landscapes and nature symbolism of north German romanticism is found in Caspar David FRIEDRICH's Cross on the Mountain (1808; Gemaldegalerie, Dresden) and in Philipp Otto RUNGE's Morning (1809; Kunsthalle, Hamburg). On the other hand, the painters who in 1809 formed the so-called Brotherhood of Saint Luke, or NAZARENES, in Vienna subsequently went to Rome in an attempt to revive religious painting by consciously resuming the traditions of old German and Italian painting in a historic mold. The frescoes painted by Johann Friedrich OVERBECK, Peter Cornelius (1783-1867), Ferdinand Olivier (1785-1841), and others of the Nazarenes in the Casa Bartholdi in Rome (1816-17; now in Nationalgalerie, Staatliche Museen, Berlin) exerted a strong influence not only on the English **PRE-RAPHAELITES** but also on the course of 19th-century German history painting, the most grandiose expression of which occurs in Alfred Rethel's fresco cycle (1846-52) of scenes from the life of Charlemagne in the Aachen Rathaus (Town Hall).

In the mid-19th century, along with the heyday of illustrative history painting, came the beginnings of pictorially realistic art, as in Adolph von MENZEL's Room with Balcony (1845; Staatliche Museen, Berlin-Dahlem), which was later transformed by Wilhelm LEIBL and by Max LIEBERMANN into naturalistic and impressionistic art, respectively. Still other painters—Anselm FEUERBACH and Arnold BOCKLIN are the best known—went beyond even neoclassicism in trying to reproduce archaeologically correct evocations of classical style in their paintings. Generally, 19th-century German architects, like the contemporaneous painters, sought to follow the tenets of neoclassicism or those of the **GOTHIC REVIVAL**. Economic expansion after 1870, which coincided with the creation of the modern German state by Otto von Bismarck, created the need for new buildings, but these were designed principally in rather pompous historicizing styles.

THE 20TH CENTURY

Between 1890 and 1914, German architects occupied the vanguard of the revolutionary movements that brought European art into the modern era. The Jugendstil followers, adopting the new principles of the ART NOUVEAU movement, sought to instill in architecture and the applied arts the notion that materials must be used only as appropriate to their inherent properties. Even more important were the efforts of Peter BEHRENS, whose early 20th-century factory buildings revolutionized industrial architecture, and the Belgian architect Henry VAN DE VELDE, who founded the Weimar School for Applied Arts in 1901. Van de Velde and his followers staged the famous Cologne Werkbund Exhibition of 1914, the first European statement of the coming wave of MODERN ARCHITECTURE.

While German architects heralded the dawn of the functional age, German painters and sculptors in the early 1900s were drawing inspiration from an enduring tradition in German art. A group of artists who called themselves Die Brücke ("The Bridge"), the most famous of whom are Emil NOLDE and Ernst KIRCHNER, rejected official academic art in favor of a radical form of expressionism (see EXPRESSIONISM, art) that owed as much to Late Gothic German art as to French POSTIMPRESSIONISM. Wilhelm LEHMBRUCK and Ernst BARLACH were the corresponding representatives of German expressionism in sculpture.

After World War I, German artists and architects resumed their position in the European avant-garde. Particularly important in postwar European painting were Max ERNST, a prime advocate of surrealism, the inimitable Paul KLEE, and the expressionist Max BECKMANN. Even more influential, in terms of their impact on world art, were the architects of the BAUHAUS School, principally Walter GROPIUS and Ludwig MIES VAN DER ROHE. The functional glass-and-metal structures created by Bauhaus architects inaugurated what came to be called the INTERNATIONAL STYLE in architecture, which became one of the most potent and seminal artistic currents of this century.

Ulrich Finke

Progressive art movements in art were brought to a standstill by the rise of Nazism in the early 1930s. In 1937 the works of Germany's most accomplished vanguard artists were exhibited in the notorious Entartete Kunst (degenerate art) exhibition in Munich. Abused and mistreated by the Nazis, most of the work at the exhibition was sent to Switzerland, where it was sold at auction. Faced with the loss of their livelihood at the hands of censors and unable to purchase art supplies legally, most of Germany's most advanced artists and architects emigrated to France or the United States. Under Hitler's direction, the avant-garde was replaced by a highly political form of neoclassical painting, sculpture, and architecture, much of which was destroyed at the conclusion of World War II.

Although Germany produced little important art in the decade following World War II, since 1960 influential work has again been produced on German soil, particularly in the form of expressionist painting. The predominant figure in this development has been Joseph Beuys (1921-). As a teacher at the Art Academy in Dusseldorf in the 1960s and through his own work, Beuys has influenced such painters as Anselm Kiefer (1945-), Jorg Immendorf (1945-), Georg Baselitz (1938-), and Markus Lupertz (1941-). While working in a variety of expressive painting modes, these artists have all dealt in their work with the problems of being an artist in the late 20th century and with themes relating to German literature and culture. Notable among contemporary German architects is Gottfried BOHM.

Maria Makela

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Flamboyant Gothic style

Flamboyant, from the French word meaning "flamelike," is a stylistic term used to identify the last major period of GOTHIC ART AND ARCHITECTURE, which began in the reign (1364-80) of Charles V of France and extended to about 1540—a long period of creative renewal in both secular and ecclesiastical architecture after almost a century of decline. Although precedents for the curvilinear tracery and some of the ornamental motifs of this exuberantly decorative style had already occurred in England, the major structural elements were derived more directly from the French RAYONNANT STYLE. But the older architectural formulas were now reinterpreted with unparalleled freedom.

The architect Guy de Dammartin, working at the Palais des Contes (1384-86) in Poitiers and at the Sainte Chapelle (1380-89) in Riom, has been credited with initiating the Flamboyant style. The great surge in building activity, however, came only with the reunification of France after the victories of Joan of Arc in the Hundred Years' War, culminating at the end of the 15th century and the early decades of the 16th century in the series of grand cathedral facades, such as the west facade of Troyes Cathedral (1506) and the transept facades (1499) of Beauvais Cathedral, created by Martin Chambiges and his son Pierre. Disseminated over much of the continent, the Flamboyant style developed its most extravagant intricacies in Spain, as in the facade of Saint Paul's Church (c.1490-1515) in Valladolid by Simon de Colonia. In Portugal under King Manuel I (r. 1495-1521) it was further enriched by an unrestrained growth of exotic forms, which became known as the Manueline style.

William M. Hinkle

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Italian art and architecture

Since early antiquity Italy has consistently been a significant, and often dominant, factor in the history of European art and architecture. Italian art has its roots in the aesthetic traditions of classical Rome and in the pre-Roman cultures of the Italian peninsula, especially those of the Greeks and the ETRUSCANS (see ROMAN ART AND ARCHITECTURE). Italian art has been predominantly a celebration of life and human accomplishment, as well as an affirmation of a harmonious relationship between humans and nature. The commonality of a shared classical heritage, Roman Catholicism, and the Italian language were able to unify artistic style, technique, function, and content. The peninsula's long political fragmentation, however, has made Italian art a complex study of distinct local artistic styles or traditions called schools.

THE MIDDLE AGES

Italian art history begins in Rome during the 1st to 4th century with the emergence of a Christian religious iconography and architecture based on Roman prototypes (see EARLY CHRISTIAN ART AND ARCHITECTURE). The transfer of the Roman imperial capital to Byzantium in the 4th century meant that Constantinople would become the vital early medieval center of Mediterranean Christian culture, making Italy a Byzantine cultural province. Ravenna in the 6th century and Venice and Sicily in the 11th and 12th centuries were the principal Italian locations for the orientalizing aesthetic of the Byzantines (see BYZANTINE ART AND ARCHITECTURE). Spatially impressive central plans, lavish materials, sumptuous color, mysterious lighting, and stylized, or iconic, representation characterize the architecture and mosaics of Ravenna's SAN VITALE (6th century) and SAINT MARK'S BASILICA in Venice (begun 1063). Arab artisans resident in Sicily from the 9th to 12th century also introduced an Oriental style of decorative magnificence, as evidenced by Palermo's Palatine Chapel (1132-40).

The Romanesque Period

Italy was economically revitalized in the 11th and 12th centuries. Regional and municipal rivalries prompted an artistically competitive atmosphere resulting in the erection of large-scale ecclesiastical and secular buildings designed in the Romanesque style. Originating in 11th-century France, the Romanesque aesthetic quickly spread through western Europe, developing many local stylistic variants. The Italian Romanesque was concentrated in Lombardy, Tuscany, and southern Italy. At SANT'AMBROGIO, in Milan (1088-1128), Lombard master brick masons constructed one of the earliest examples of rib groin vaults. The Lombard style, therefore, came to be characterized by large vaulted churches with elaborate exterior brickwork. In Tuscany, Pisan architects decorated facades by superimposing tiers of marble arcades, as in Pisa Cathedral (begun 1063). Cefalu (1131-48) and Monreale (1176-82) cathedrals in Sicily are representative of the southern Italian Romanesque. Their grand spatial solemnity is attributable to French architects employed by the Normans, who had conquered Sicily from the Arabs. Northern Italian church facades were often richly decorated with stone sculpture exemplified by the work of Wiligelmo at Modena Cathedral (c.1099), or entrance doors frequently were covered with bronze relief panels like Niccolo's for San Zeno, Verona (c.1138). The stone and bronze reliefs of Benedetto ANTELAMI (1178-1223) in Parma's cathedral and baptistery are among the finest achievements of Italian Romanesque sculpture.

From the 11th to the 14th century, Italian painting was in-debted in form and imagery to Byzantine sources. This can be partially attributed to the influence of Greek icon painters and mosaicists who came to Italy from Byzantium after Constantinople had been conquered (1204) in the Fourth Crusade. The major innovation of the Italo-Byzantine school were monumental painted crucifixes hung over the altars of Tuscan churches. These were more narrative than symbolic, thereby indicating an emerging preference in the west for the real rather than eastern abstraction. Indigenous Latin humanism also invested the Byzantine-influenced paintings of CIMABUE and Duccio with a greater gentleness and personal pertinence than their eastern counterparts.

A classical Romanesque style developed principally in Rome and Tuscany. The frescoes by Pietro CAVALLINI in Santa Cecilia in Trastevere, Rome (c.1290), exhibit a monumental simplicity and ordered presence indicating a study of ancient Roman sculpture. Florentine Romanesque exteriors, such as that of San Miniato al Monte (1018-62), were covered with Roman-derived geometric patterns in green and white marble. The most overt sculptural reference to the influence of antiquity was the Pisa baptistery pulpit (1259-60) of Nicola PISANO. (See ROMANESQUE ART AND ARCHITECTURE.)

The Gothic Style

Originating in mid-12th century in France, the Gothic style was introduced into Italy during the early 13th century. Its dissemination was in part due to French Cistercian monks establishing Italian monasteries, and to the conquest of

Naples by the French prince Charles of Anjou. Italian Gothic architecture is characterized by a classical preference for width rather than medieval height. In contrast to France, Italian churches such as San Francesco, Assisi (1228-53), or Santa Croce, Florence (begun 1294), appear massive, somber, and ornamentally chaste. Rather than vertical walls of stained glass, the Italians preferred horizontal surfaces for painting fresco murals.

Unlike in France or Spain, sculpture was sparingly used to decorate Gothic buildings. Pulpits and doors, however, continued to be covered with narrative relief panels. Gothic taste called for emotional poses and naturalistic details, as in Giovanni Pisano's pulpit in Sant'Andrea, Pistoia (1301), or Andrea Pisano's south doors (1330-35) of the Florence Baptistery.

Gothic painting turned from the symbolic to the natural. Empiricism, or observation of the environment, was linked to the new rationalism. The Florentine GIOTTO DI BONDONE revolutionized European painting with telling observations of human events set in ordered, volumetric spaces such as the frescoes in the Arena Chapel, Padua (c.1304-13). His monumental forms, simplicity of composition, and clarity of context influenced a generation of Gothic classicists in Florence. The Sienese school was less classical and more Gothic in spirit and form. In addition to elegantly rendered religious subjects, Simone MARTINI and Pietro and Ambrogio LORENZETTI produced portraits and landscapes reflecting Gothic naturalism. Originating in the French court, the elegant Gothic INTERNATIONAL STYLE permeated Italy from c.1375 to c.1425. The decorative anecdotal quality, intricate curvilinear forms, brilliant color, and lavish settings are seen in tempera panel paintings by GENTILE DA FABRIANO and Antonio PISANELLO, as well as in the north door reliefs of the Florence Baptistery (1403-24) by Lorenzo GHIRBERTI.

THE RENAISSANCE

Patronized by leading banking families like the MEDICI, the classicizing Early Renaissance style was initiated in Florence during the 1420s by Filippo BRUNELLESCHI, DONATELLO, and MASACCIO. Through his study of Giotto, Masaccio had rediscovered the Italian classical tradition, and, traveling together to Rome, Brunelleschi and Donatello derived new understanding of antiquity by studying ancient Roman ruins and sculptures. Their observations, coupled with the humanistic Tuscan intellectual climate, engendered an avant-garde aesthetic that replaced the Gothic in Italy by the end of the century.

Early Renaissance Architecture and Sculpture

Florentine architects determined the design standards for Early Renaissance buildings. Churches were organized on either a central plan or a combination central and rectangular plan. Residential palaces were developed around a central arcaded courtyard, or cortile. The relationship of architectural proportion and human scale was a Renaissance concern first manifested in the works of Brunelleschi. Florentine buildings like the Pazzi Chapel achieve a serenity and clarity of design from the reductive organizational use of mathematics and the harmonious simplicity of materials and ornamentation. The formal and intellectual refinements of Brunelleschi's work by Leon Battista ALBERTI influenced the next generation of Florentine architects. His characteristic classical correctness, use of monumental mass, and emphasis on geometric relationships are evident in Sant'Andrea, Mantua (begun 1470).

Donatello was the most influential Early Renaissance sculptor. His David (c.1430-32; Bargello, Florence), the first free-standing bronze nude statue since antiquity, revived the classical compositional device of contrapposto, showed a concern for psychological interpretation, and displayed a scientific, as well as an erotic, interest in the human body. Poetic mood and lyrical line or contour typified the busts and reliefs of mid-century Florentines such as Luca DELLA ROBBIA and DESIDERIO DA SETTIGNANO. The anecdotal realism of VERROCHIO and the energetic studies of the figure in motion of Antonio POLLAIUOLO were dominant in late-15th-century Florence.

Painting

Masaccio's Brancacci Chapel frescoes in Santa Maria del Carmine, Florence (1427), are the initial and most influential statement of the Early Renaissance style in painting. He creates the illusion of three-dimensions on a flat surface by using the system of linear perspective probably discovered in the 1420s by Brunelleschi. The heightened sculptural appearance of the figures results from his advancements in the use of chiaroscuro, or modeling in light and dark. Florentine-educated PIERO DELLA FRANCESCA intellectualized and schematized Masaccio's style in such works as the Legend of the Holy Cross frescoes in the church of San Francesco, Arezzo (c.1455-65). In contrast to Masaccio and Piero, the late Quattrocento (15th century) was dominated by the anecdotal bourgeois realism of GHIRLANDAIO and the decorative elegance and melancholic mood of BOTTICELLI, whose line and

pattern had superseded Masaccio's mass and volume. **ANTONELLO DA MESSINA**, a Sicilian schooled in the Flemish tradition, introduced oil painting to Venice about 1475. The medium's luminosity attracted Giovanni Bellini (see **BELLINI** family), whose late works first fully manifest the Venetian school's preoccupation with color, light, and atmosphere.

The High Renaissance and Mannerism

During the High Renaissance (c.1495-1520), Rome succeeded Florence as the center for the artistic avant-garde. The patronage of **MICHELANGELO**, **RAPHAEL**, and **BRAMANTE** by Popes Julius II and Leo X engendered one of the most brilliant and influential periods in art history.

Bramante and Michelangelo conceived an architecture of solemn splendor for a papacy wishing to construct a city that would rival and even surpass the imperial grandeur of ancient Rome. The Roman practice of extending columns through several stories was revived by Michelangelo to achieve greater monumentality. Imposing central-plan spaces were designed for the rebuilding of **SAINT PETER'S BASILICA** in Rome. An emphasis on sculptural mass, rather than on Early Renaissance wall surface or plane, made such High Renaissance structures as Bramante's **Tempietto** at San Pietro in Montorio, Rome (1502), appear more solid and eminent.

In the early 16th century an aesthetic dichotomy arose between the intellectual classicism of the Florentine-Roman school and the sensual romanticism of the Venetians. Until the 20th century these differing aesthetics would polarize Western painting. The primary Florentine-Roman interest was drawing, or line, and sculptural modeling. Venetians, on the other hand, preferred atmospheric and textural paintings emphasizing the effects of light and richness of color. The fresco by **LEONARDO DA VINCI** of the Last Supper in Santa Maria delle Grazie, Milan (c.1495-98), and Raphael's frescoes in the Vatican Palace's **Stanza della Segnatura** (1509) are visually and contextually ultimate Florentine-Roman statements, whereas the oil paintings of **GIORGIONE** and **TITIAN** are most representative of Venetian concerns. (See **RENAISSANCE ART AND ARCHITECTURE**.)

The Mannerist style of the 16th century was a response to socioeconomic instability, foreign occupation, philosophical disillusionment, and the discordant separatism caused by the Protestant Reformation. Although it began in Rome and Florence, **MANNERISM** was not identified with any particular locality. Artists moved to wherever there was opportunity and relative security. Many even left Italy, thereby spreading Mannerism throughout Europe and making it the first Italian international style since Roman antiquity. The internationally renowned Michelangelo was the most influential Mannerist, as he had earlier been the most important High Renaissance artist. Like the 16th-century art itself, his architecture, painting, sculpture, and poetry move from positivism to negativism and from definition to ambivalence.

Mannerist architects such as **GIULIO ROMANO** employed classical motifs in an eccentric way, designed bizarre ornamentation, and preferred ambiguous spatial relationships. Structural stability and intent were continually being called into question. Such painters as **PONTORMO**, **PARMIGIANINO**, and **BRONZINO** responded to the conflicts and dislocation of their age by emphasizing the unnatural and irrational. Compositions were elongated, compressed, asymmetrical, and entangled. The self-conscious works of **CELLINI** and Giovanni da **BOLOGNA**, with their improbable balance and neurotic agitation, are representative of Mannerist sculpture.

Reflecting Venice's relatively better economic and political stability, Venetian Mannerism was less extreme. The inventive extension of classical usage by **PALLADIO** had a major impact on later English and American architecture, while the dramatic use of light and the diagonal by **TINTORETTO** influenced the Italian Baroque. The decorative splendor of **VERONESE** elaborated the Venetian concern with opulent color and lavish setting.

THE BAROQUE PERIOD

Following the Council of Trent (1545-63) and the launching of the Counter-Reformation, Roman Catholicism and the papacy began to recover credibility and influence. Assurance and prosperity returned to Italy in the 17th century; Italian and foreign talent made the papal capital Europe's most artistically influential city from about 1600 until the 1660s, when it was supplanted by Paris and Versailles. The baroque popes rivaled their High Renaissance predecessors as art patrons in their determination to make Rome a visual symbol of the spiritual and secular power of a renewed Roman Catholic church.

Recently canonized saints, newly formed religious orders, and a growing population necessitated more ecclesiastical buildings. The elaborate Counter-Reformation liturgy, with its emphasis on emotional pageantry, further prompted remodeling or expanding older religious structures to make them suitably spacious and

magnificent. Greater prosperity and an enlarged aristocracy prompted construction of luxurious palaces, villas, and gardens to accommodate the theatrical baroque life-style and, like the churches, serve as emblems of an enhanced wealth and power. BERNINI in particular set the tone of the Italian baroque and played a role similar to that of Michelangelo in the previous century. The international prestige of Bernini's sculpture and architecture, as well as the painting of CARAVAGGIO and the CARRACCI, made the Italian baroque another internationally influential style, except in Protestant countries, where its exuberance and ostentation were often considered excessive and even immoral.

Bernini and BORROMINI in Rome, Guarino GUARINI in Turin, and LONGHENA in Venice were the geniuses of Italian baroque architecture. They achieved dynamism and magnificence through complex plans with changing perspectives, undulating or curved walls, grandeur of scale, dramatic lighting, lavish materials, and exuberant ornamentation. Architecture, painting, and sculpture were all synthesized to create an overwhelming multimedia environment parallel in the visual sphere to opera—also a product of baroque Italy—in the sphere of music. Optical illusion was used to produce an expanded physical and emotional reality, as in Andrea Pozzo's (1642-1709) *trompe l'oeil* architecture enframing a miraculous event frescoed on the ceiling of Sant' Ignazio, Rome (1691-94). Baroque architects were not just concerned with individual buildings, but were innovative town planners and landscape architects. The placement and relation of structures in the external environment was a further means of emotionally directing the spectator and making a symbolic statement, as in Bernini's Piazza for Saint Peter's in Rome (begun 1656). Baroque sculpture was usually integrated into an urban or architectural setting as Bernini's Fountain of the Four Rivers in Rome's Piazza Navona (1648-51) or his Ecstasy of Saint Theresa in Santa Maria della Vittoria, Rome (1645-52). Different materials such as bronze and various colored marbles were frequently combined to achieve a heightened richness or to simulate reality.

Two distinct Italian baroque schools of painting arose in the early 17th century. Caravaggio and followers like Orazio GENTILESCHI and his daughter Artemisa were uncompromising naturalists employing tenebrism, a type of spotlight illumination exploiting the drama of extreme contrast of light and dark. A classical counterpoint to the Caravaggio school was established in Bologna at the Academy founded in 1585 by the Carracci. Their classicizing "academic" synthesis of Michelangelo's energy, Raphael's idealization, and Titian's color influenced other Bolognese painters, such as Guido RENI, DOMENICHINO, and GUERCINO. (See BAROQUE ART AND ARCHITECTURE.)

THE EIGHTEENTH AND NINETEENTH CENTURIES

In the 18th century Italian influence declined as France, England, Austria, and Prussia became the political, economic, and artistic leaders of Europe. Italy became a place that foreigners visited to study the remains of antiquity rather than to learn from their Italian contemporaries.

The Piedmont region produced the most innovative and influential Italian architecture of the 18th century. Working for the House of Savoy at Turin, Filippo JUVARRA designed churches and palaces of distinction. Also employed by the Spanish and Portuguese monarchies, Juvarra brought the Piedmont baroque style to Madrid and Lisbon.

During the final phase of its socioeconomic decline, Venice developed an era of cultural brilliance excelled only by the 16th century. Venetian painting commanded an international audience. Giambattista TIEPOLO, the last of the great Venetian decorators, painted in Wurzburg and Madrid, as well as in Venice. His frescoes, noted for their effortless technique and brilliant use of light and color, mark the end of the Italian mural painting tradition essentially begun by Giotto. The *veduta*, or Venetian scene paintings, of CANALETTO and Francesco GUARDI were popular souvenirs for the wealthy traveler.

The late baroque and rococo styles were fashionable in the first half of the century. By about 1750, however, interest in the excavations of Roman ruins at Pompeii and Herculaneum prompted a revived European interest in antiquity resulting in NEOCLASSICISM. Ironically, Italy did not excel in the new artistic style, except for the works of Antonio CANOVA, who became the most acclaimed neoclassical sculptor.

Aside from the MACCHIAOLI, a group of Florentine painters who produced Tuscan landscapes and genre scenes, Italian art remained generally derivative until the late 19th century, when new schools began to emerge. The symbolist paintings of Giovanni Segantini (1858-99) complemented the inventive decorative extravagance of the *Stile Liberty* or *Floreal*, a movement in architecture and the decorative arts paralleling France's Art Nouveau. The impressionistically modeled wax sculptures of Medardo ROSSO relate to Rodin's works.

THE TWENTIETH CENTURY

In the 20th century Italian art has again become internationally acclaimed and influential. From 1910 to 1920, Italy briefly emerged as a major contributor to the development of modern art through FUTURISM and metaphysical painting. Both movements originated in Milan, which has been the most important center of avant-garde 20th-century Italian art, architecture, and design. The poet Filippo MARINETTI established futurism in 1909 as a positive response to modern technology and a negative reaction to 19th-century academic eclecticism. Although related to cubism, the sculpture of Umberto BOCCIONI and the paintings of Carlo CARRA, Giacomo BALLA, and Gino SEVERINI were primarily concerned with the phenomenon of movement. The futurist insistence on art that is politically moral and socially relevant is especially evident in the plans for the Citta Nuova (New City), a visionary urban design by Antonio SANT'ELIA. In 1915, Giorgio de CHIRICO founded metaphysical painting (*pittura metafisica*) both as a personal need and as a reaction against futurism. Precursors of surrealism, the personal fantasy and poetic stasis of metaphysical dream interpretations contrast with the civil concern and kinetic formal simultaneity of the futurists.

Although related to some aspects of modernism, much Italian art in the first half of the 20th century was figurative and rooted in previous manifestations of Italian classicism, like the reductive still lifes of Giorgio MORANDI and the sculpture of Giacomo MANZU and Marino MARINI. Living in Paris and drawn to French modernism, Amedeo MODIGLIANI produced portraits and nudes related to Florentine Renaissance linearism.

The pompous pretensions of fascist art and architecture dominated Italy in the 1920s and '30s. Mussolini's patriotic propaganda and call for a new imperial Rome prompted the formation of the Novecento Group, which, opposing modernism, academically espoused a large-scale revival of ancient Roman and High Renaissance classicism. Also during the 1930s the foremost Italian architectural modernists, Gio PONTI and Pier Luigi NERVI, began to design the office buildings and sports complexes that they respectively perfected during the 1950s and '60s in Milan, Turin, and Rome.

Influenced by Paris and New York City, painters such as Lucio FONTANA, Renato Birilli (1906-59), Afro, Alberto Burri, and Emilio Vedova, developed Italian expressions of postwar abstraction in the 1950s and '60s. *Arte povera* (poor art) was the name given in the late 1960s to Italian minimal art and conceptual art, represented by the works of Michelangelo Pistoletto, Luciano Fabro, Piero Manzoni (1933-63), and Mario Merz. During the 1980s the United States, Germany, and Italy became the principal centers for a postmodern avant-garde producing expressionistic figurative compositions with formal and contextual references to the past, as well as apocalyptic visions of the future (see NEOEXPRESSIONISM). The international reputations of such postmodernists as Sandro Chia, Francesco Clemente, and Enzo Cucchi testify to the continuing importance and vitality of Italy's artistic contribution to Western culture.

Robert J. Loescher

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Latin American art and architecture

Latin American art and architecture refers to the artistic traditions developed by the European colonizers of Mexico, Central America, and South America, and their descendants. Since the European discovery of the New World, the art and architecture of this vast area has evolved in two phases. The first was the colonial phase, beginning late in the 15th century and ending early in the 19th century, after the wars for independence were concluded. In Mexico the Revolution of the early 20th century marked the beginning of the second phase—the emergence of modern developments in architecture, painting, and sculpture. The rest of Latin America entered this phase at various times, although generally soon after it had begun in Mexico.

Highly developed civilizations existed in the New World thousands of years before the arrival of Europeans. Pre-Columbian American centers of great importance flourished in the Andes, central Mexico, and the MAYA area (Yucatan and Central America) up until the time of the Spanish conquest of the AZTECS (1519-21) and of the INCA (1531). On the desert coast of Peru the ruins of sun-dried mud brick buildings carved with polychromed relief sculptures can still be seen at CHAN CHAN (AD 1200-1450) and other sites; remains of expertly cut stone constructions exist at CUZCO, MACHU PICCHU (AD 1450-1532), and elsewhere in the Andean highlands. In Mexico pyramids of earthen rubble faced with stone and finished with brilliantly painted plaster dominated the architecture of the pre-Columbian period. TEOTIHUACAN, a great urban center of the central valley of Mexico (200 BC-AD 750), was larger in area than Imperial Rome. A place of pilgrimage for many ancient peoples of Mesoamerica, it was a magnificent city of streets and palaces punctuated by pyramids and plazas laid out around a great central axis.

Generally characteristic of PRE-COLUMBIAN ART AND ARCHITECTURE was its skillful integration of architecture, sculpture, and painting into a style that presents a unique synthesis of all three aesthetic forms. This synthesizing tendency is also seen in the baroque style that appeared during the colonial period; it is likewise characteristic of much modern Latin American architecture even today.

Few of the native-American arts lasted long after the conquest. One of the best documented examples of a native art surviving past the 16th century is the art of manuscript painting practiced among the Indians of Mexico. The earlier pre-Columbian styles with their abstract rendering of human figures gradually gave way to a more European approach to forms, the handling of the brush and pen, and even the use of European paper instead of tree bark and other native materials. Another survival of the pre-Columbian period in Mexico was the making of feather mosaics. Here the artists changed from making garments for the Aztec rulers and nobility to making decorations for bishops' miters and for other Christian ecclesiastical objects. In Peru the keru, a flared wooden drinking vessel decorated with carved and painted designs in the Inca tradition, continued into the colonial period with few changes except in subject matter.

Folk art traditions that began in the 16th century became widespread throughout Latin America. They represent an art based on the copying of styles over long periods of time in isolation from the innovating impulses emanating from vital artistic centers. The Santos, polychrome paintings and sculptures of saints, executed in a notably reverential yet primitive style, are typical examples of folk art, as is the carved facade of the Cathedral of Zacatecas (1752) in Mexico. Many church exteriors in the Andes region exhibit relief patterns resembling those found in local textiles. This distinctive folk style is sometimes called mestizo ("mixed") art because it combines traditional Indian features with Christian elements. Its main centers were the Peruvian towns of Ayacucho and Arequipa.

COLONIAL PERIOD

During the colonial period cities of great architectural splendor as well as local schools of painting and sculpture arose, especially in those parts of Latin America where the pre-Hispanic civilizations had thrived at the time of the conquest. In Peru the main Inca center of Cuzco became in the colonial period a splendid city with great churches, monastic buildings, and palaces. The School of Cuzco, a major colonial painting tradition noted for its profuse use of gold leaf, also developed there. TENOCHTITLAN, the Aztec capital, became Mexico City, the seat of the richest New World viceroyalty (that of New Spain) and an archbishopric; it is still sometimes called the City of Palaces, and its school of painting became the most important in the colonial world. Cities that became in effect cultural satellites of these two early capitals include Bogota and Quito for Cuzco and Puebla and Oaxaca for Mexico City. Colonial Buenos Aires in Argentina, Santiago in Chile, Monterrey in Mexico, and Antigua in Guatemala were more or less frontier towns by comparison, depending primarily on mining, trade, or administration rather than cultural ascendancy for their importance in colonial times.

Unlike the other major New World colonies, the former Portuguese colony of Brazil was built upon no preexisting

high Indian culture. Nevertheless, the architecture, painting, and sculpture of its principal colonial centers—Bahia, Recife, Belem—as well as of its mining towns in the province of Minas Gerais—all bear the imprint of having been created in a metropolitan environment rather than in provincial outposts. Perhaps the strict ties maintained between Lisbon and the overseas world helped keep Brazil abreast of European trends in the plastic arts; by contrast, in Mexico and Peru, where somewhat greater autonomy was given the local government, the arts remained in general more remote and more provincial in style.

Sixteenth Century

The 16th century marked the construction of a wide range of public building (of which few are still standing); many monastic establishments, mainly by the Augustinian, Dominican, and Franciscan men's orders; and the beginnings of the great cathedrals. The early military conquerors and religious orders in the New World brought with them works of art—paintings and sculptures—as well as knowledge of the main architectural styles then current in Spain. These styles included Late Gothic vaulted churches with pointed arches, buttresses, and traceried windows.

The Late Gothic style, dominant in the early monastic establishments, was often conjoined with external facades and interior altarpieces designed in the Plateresque, or early Renaissance, style of Spain. This combination of styles appears in the cathedral of Santo Domingo on Hispaniola, the oldest cathedral in the New World, begun in 1512. By the end of the 16th century more advanced construction techniques appeared and a number of triple nave cathedrals on a basilica plan were built, including those at Mexico City, Guadalajara, and Puebla, the latter designed by Claudio de Arciniega (c.1528-93).

Another style the Spanish brought to their new colonies was called Mudejar, meaning the style of Moorish artisans working for Christians. The most prevalent form of Mudejar art to reach the New World, seen especially in South America and in the Caribbean Islands, are the elaborate carved and painted coffered ceilings with exposed wooden beams. These ceilings are decorated with abstract Moorish motifs that feature interpenetrating linear designs meeting in elaborate star patterns. Modeled stucco decoration also using Moorish designs often appears on the outer walls of buildings. In Lima palaces having shuttered wooden balconies are reminiscent of the Moslem world of Spain or North Africa.

Throughout the colonial period, beginning with the first foundation of cities, military architecture played an important role. The castles and fortified city walls and forts of Havana, Cuba; Acapulco, Mexico; Lima, Peru; Veracruz, Mexico; Panama City; and San Juan, Puerto Rico, are among the major works of military architecture designed to protect the colonies from marauding pirates or foreign navies in time of war.

City planning was also of great importance because so many new towns and villages had to be founded from early in the colonial period. In Mexico, for instance, the Spaniards frequently relocated Indian villages from the low-lying hills to open and accessible locations so that they could be better controlled. When the new village or, as in the case of Puebla, Mexico, new town was laid out it followed the regular European Renaissance plan—a gridiron of streets intersecting at right angles with a main plaza in the heart of the town. On this plaza were built the parish church or, depending on the importance of the town, cathedral, and other public buildings such as the city hall and jail, residences for important royal officials, and in the case of a cathedral town, the palace of the bishop or archbishop.

In painting, frescoes decorating some of the earliest colonial paintings were executed in grisaille (shades of grey that create the illusion of sculpture). Sixteenth-century painters who migrated from Europe included Italian-born Bernardo Bitti (1548-1610) in South America, and in Mexico, Flemish-born Simon Pereyngs (active second half of the 16th century). Both painted in the Mannerist style characterized by attenuated body proportions, small heads, and a kind of withdrawn facial expression, as in Pereyngs's St. Christopher (1588; Mexico Cathedral). In the colonies as in Spain, the subject matter of painting was mainly of a religious nature—saints of the church and scenes illustrating the life of Christ and the Virgin. Secular subjects were limited to portraits, and landscapes were unknown.

Seventeenth and Eighteenth Centuries

From the beginning of the 17th century to the end of the colonial period, the baroque styles dominated the artistic life of the Spanish and Portuguese colonies. Several phases of the baroque style are clearly evident in the monumental architecture and in the carved wooden retables (altarpieces) of the colonial church. The baroque retable is a painted and gilded screenlike construction placed behind the altar and often reaching from floor to ceiling. In the early 17th century appeared the so-called salomonic column, derived from the European

Plateresque tradition. This spiral-shaped column, profusely carved with flower and fruit motifs, became a primary element in the 17th-century baroque altarpiece. The arrangement of the columns in relation to the wall behind them became markedly dynamic, with surface texture and color playing an important decorative role. Walls no longer appeared as flat surfaces but as convex and concave curves as the columns were projected further in space and piled one before or on top of another.

Colonial architectural projects were greatly expanded in the 18th century. Universities and other educational buildings were raised, as were numerous parish churches in the rich mining towns such as Taxco and Guanajuato in Mexico. Typically they were built on a cruciform plan with a dome over the crossing of nave and transepts. Golden altars were richly adorned with paintings and lifelike polychromed sculptures often garbed in silk, satin, or velvet garments.

The erection of countless palaces in the cities and grand haciendas in the country marked the agricultural wealth of the colonists in the 18th century. As seen in the elegant house of the Marques de Jaral de Berrio (c.1760; Mexico City), the city palace typically had a large formal patio in the front part of the building with an entrance from the street large enough to admit horses and carriages. The formal staircase of the first patio led to the formal rooms on the first floor—dining room, salon, sitting rooms, bedrooms, and in the most affluent houses, even a private chapel. Other patios followed in the plan, often one for the stables and carriage house, one for the kitchen, and another for the laundry and other services. The sculptural decoration on the palace walls followed that used in churches, especially the estipite column, a downward-tapering, carved pilaster characteristic of the Mexican baroque. In addition to architectural sculpture on the exterior facade the family coat of arms invariably appeared and often, in a niche, the patron saint of the builder.

Portrait painting became immensely popular in the late 17th and 18th centuries. Wealthy members of the colonial nobility posed in all of their most rich and formal finery—silks from China, pearls from the Pacific, and the insignias of knighthood and nobility from Spain or Portugal. The foreground of such full-length or half-length portraits often includes a large painted shield or cartouche with the sitter's names and titles. An important Mexican painter was Baltasar de Echave Ibia (c.1585–c.1645), son of the Spanish-born painter Baltasar de Echave Orio (c.1548–1620) and father of the painter Baltasar de Echave Rioja (1632–82). Other prominent painters of the school of Mexico City were Cristobal de Villalpando (c.1652–1714) and Miguel Cabrera (1695–1768).

The main contribution of Brazil to the art of the baroque period was its magnificent churches and the sculptural creations of Antonio Francisco Lisboa, known as ALEIJADINHO. Brazilian architects endowed their churches with a forceful spatial expressiveness through the use of interconnecting oval interior spaces and contrasting concave and convex exterior walls. The octagonal nave, as seen in Sao Pedros dos Clerigos (1728) at Recife, was basic to much Brazilian church architecture. After 1755 the province of Minas Gerais became the center of architectural activity. Several churches were built at Ouro Preto, including the Sao Francisco di Assis (1766–94), brilliantly decorated with carvings in wood and soapstone by Aleijadinho. His most renowned works are the dramatic statues of the Twelve Prophets at Congonhas do Campo (1800–05), which highlight the monumental staircase leading to the church of Bom Jesus de Matozinhos.

POSTCOLONIAL PERIOD

At the end of the 18th century the Spanish colonies received a royal order to cease building altarpieces in the opulent estipite style and also to destroy the ones in use and replace them with more chaste altars. Polychromed sculpture, lavish use of paintings, and the overwhelming profusion of gilding were all to be discontinued; the architectural elements were thenceforth to be made of white marble, alabaster, or of wood painted white to imitate marble. Columns were to be made in the simple forms associated with classical antiquity; the baroque predilection for carving plant decorations on the shaft was to be eliminated. This largely French-derived neo-classical style, reflected in such buildings as the College of Mines palace (1797–1813; Mexico City), emerged in both the Hispanic and Brazilian colonies in the late 18th and early 19th centuries, forming a bridge between the colonial period and the period of Latin American independence, which began in 1821.

Nineteenth Century

Architectural activity remained rather limited until the latter part of the 19th century, when the disturbances of the immediate postindependence period had abated and a new prosperity gained ground in Latin America. During the renewed period of building, new technologies such as plumbing, electrical equipment, and elevators were imported from Europe or the United States. Another import was the eclectic style associated with the Ecole des Beaux Arts of Paris. Decorative detailing is rich and varied in this Beaux Arts style, as exemplified in the Venetian Gothic-styled

post office in Mexico City and, on a corner diagonally across from it, the baroque national theater (now the Palacio de Bellas Artes), both by the architect Adamo Boari. Bronze or wrought-iron balustrades, carved marble facades, finely finished interior wood paneling, as well as matching rugs, furniture, and draperies were all part of the architectural program in the many Beaux Arts-inspired urban buildings of the late 19th century. The Art Nouveau style stemming from France was also widespread at the turn of the century, although this phase of Latin American architecture has been little studied.

Latin American painting in the 19th century can be divided into three major categories: academic painting sponsored by the government or by members of the ruling elite; folk art, continuing the strong currents of popular art that originated in the earliest days of the colonies; and a new element, the painting of everyday life in Latin America by European or North American artists traveling through the New World.

Academic painting in Mexico reflected the styles of academic painting that arose in Europe. Early in the 19th century neoclassicism was introduced, the foremost representative being the Mexican painter Rafael Jimeno y Planes (1759-1825), who decorated (1810) the dome of the cathedral of Mexico City. A revival of the baroque in the mid-and late-19th century was characterized by the use of light and shade and by large, complex compositions depicting historical subjects. Whereas in Europe classical Greek or Roman subjects were generally portrayed, in Latin America subjects from its own past were favored, including scenes of Christopher Columbus, the Catholic kings, and other subjects from Spanish history. Uniquely New World subjects such as the invention of pulque (a Mexican fermented beverage) or the torture of Cuauhtemoc (an Aztec ruler) were also depicted, especially in Mexico.

Landscape painters also found much of their inspiration in European art styles. The landscapes of the great Mexican master Jose Maria VELASCO stand out as among the most profound and impressive paintings of their genre in the European tradition on either side of the Atlantic. In such works as *The Valley of Mexico Seen from the Hill of Guadalupe* (1905; Museo Nacional de Arte Moderno, Mexico City), foreground details studied with the care of a geologist or a botanist appear alongside a sweeping distant view of almost epic dimensions.

Nineteenth-century folk art is represented not only by the continuation of rather stiff portraits but also by increasing numbers of *Ex-Votos*, a type of religious painting still being produced today. The *Ex-Voto* is rendered to offer thanks for a miraculous intervention by a particular saint or image of the Christ. Usually the account of what happened and the nature of the intercession is written out in detail, including the date and place in which the event occurred.

Among foreign artists who painted Latin American subjects were the German Johann Rugendas (1802-58) and the Englishmen Daniel Egerton (d. 1842) and Frederick CATHERWOOD, who excelled in making extraordinarily accurate views of Mayan ruins. The painters of the customs of the people, sometimes linked with native painters of similar subject matter who were called *costumbristas*, delighted in the picturesque character of country life. In Argentina they painted *gauchos* on the pampas, colonial buildings, and festive local costumes.

Twentieth Century

Following the Mexican Revolution of 1910 an entirely new trend emerged in Latin American art and architecture—first in Mexico and at various times thereafter in other Latin American countries. The academic salon painting of Hispanic or pre-Hispanic historical subjects disappeared from the scene. In its place mural painting portraying the revolution emerged as the representative type. While the Parisian school was experimenting with cubism and collages and the Bauhaus group in Germany was creating abstract geometric exercises in retreat from human meaning and significance, the Mexicans were returning to representational traditions of Late Gothic and Renaissance Italy—paintings with didactic, humanistic meaning, now charged with clear political overtones. Like the great quattrocento masters of the Italian Renaissance, the major Mexican muralists—Diego RIVERA, Jose Clemente OROZCO, and David Alfaro SIQUEIROS—painted large-scale figures using the fresco method; integrated painting into the framework of architecture; and recounted for the people large historical epics, the one religious, the other of contemporary history.

Diego Rivera, the most politically oriented of the three, painted dramatic scenes from the Mexican Revolution (such as the 1923-28 cycle in Mexico City's Ministry of Public Education building) and made comments on the life of his times in a style similar to that of the Renaissance. His clear figures were painted in a linear fashion and arranged in a series of planes, sometimes with landscape backgrounds derived from the majestic visions of the valley of Mexico conceived by Velasco. Orozco painted in a more baroque or expressionist style with great swirls of color defining the figures in painterly rather than linear fashion, as in his murals for the National Preparatory School (1923-26; Mexico City). Whereas Rivera suggests the careful and conscientious reporter, Orozco seems more like the epic

poet, and Siqueiros, who also painted in an expressionistic, highly dynamic style, seems more like the intense pamphleteer. The artistic energy represented by the work of these three men surfaced in an entire school of painters, all focusing on the human form as their main artistic motif, some in terms of history, some in terms of sociological significance, some as painters of scenes from Mexican life and lore, some even as surrealists.

Candido PORTINARI is the most widely recognized of Brazil's recent painters. A true modernist, he did fresco murals as well as panel paintings of the Brazilian people. Although he was trained in Paris he abandoned his academic French training once he returned to Rio, where he developed his peculiarly Brazilian style. Emilio Pettoruti, on the other hand, studied for 12 years in Europe and on his return to Argentina continued as one of the foremost continental avant-garde painters. His cubist-styled painting *The Quintet* (1927; San Francisco Museum of Art) is startlingly similar to the work of Picasso. Other well-known avant-garde painters include the Chilean Roberto MATTA ECHAURREN, the Cuban Raul Martinez, the Mexican Rufino TAMAYO, and, in the next generation, Colombia's Fernando Botero and Venezuela's Raphael Soto. In the 1980s, the paintings by Rivera's wife, Frida KAHLO, began to attract attention.

Modern architecture in Latin America began as early as the 1920s with the functionalist principles of such Mexican architects as Juan O'GORMAN and Jose Villagran Garcia. In Brazil the construction of the new Ministry of Education and Health building (1934-43; Rio de Janeiro) clearly signaled the inception of the modern international style. Among the participating architects were Lucio COSTA, Oscar NIEMEYER, and Alfonso Eduardo Reidy (1909-64); Le Corbusier came from France to act as consultant.

Contemporary architecture in Latin America for the last several decades has been as vital as the architecture of the United States and Europe and, in some respects, even more imaginative. An almost baroque use of curving walls and dynamic definitions of internal and external space are found in much Latin American architecture, notably that of the Mexican architect Felix CANDELA. Furthermore, throughout much of Latin America the climate is so mild and even tropical that an openness to the environment, unknown and impossible in Europe or the United States, dominates design. The combination of painted murals or mosaic-work with sculpture often forms an integral part of the architecture, as in O'Gorman's mosaic-filled Library Building at the monumentally planned University of Mexico (1953), designed principally by Mario Pani and Enrique de Moral. The University City in Caracas, Venezuela, built (1950-57) by Carlos Raul VILLANUEVA, is another example of the focused campus in place of the older tradition of the university occupying scattered buildings in the heart of a metropolis.

Perhaps the greatest urban design of this century in Latin America and one of the major examples of urban planning in the world is that of BRASILIA, the new inland capital of Brazil designed (1957) by Lucio Costa. Here an entire city, with all of its administrative, legislative, and executive functions clearly planned, was intended to bring the life of Brazil inland from the old coastal cities of the colonial period. Most of the individual buildings were executed by Oscar Niemeyer.

Donald and Martha Robertson

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Merovingian art and architecture

{mair-oh-vin'-jee-uhn}

Merovingian art and architecture comprises the artifacts and structures created in the period from the conversion to Christianity in 496 of CLOVIS and his Frankish followers, the new rulers of Roman Gaul (France and some adjacent areas), until 751, when Clovis's last descendant of the Merovingian family was deposed by the new Carolingian dynasty (see CAROLINGIAN ART AND ARCHITECTURE). This little-documented period saw the gradual decay of the Late Roman artistic tradition and the appearance of new forms and techniques, some brought by the new Germanic settlers and others imported from the creative centers of the Eastern Mediterranean, especially Egypt and Syria.

Architecture

Few buildings survive, but excavations have established that most churches continued the various Early Christian types (see EARLY CHRISTIAN ART AND ARCHITECTURE), among which the BASILICA held pride of place, although often betraying in details—such as chapels flanking the apse—the influence of contemporary Syria. Best preserved is the 5th-century Church of Saint Pierre (now Musée Lapidaire Romain) at Vienne, in southeast France, a spacious structure whose many columns were, characteristically, looted from a number of earlier Roman buildings. Similarly the 7th-century Baptistery of Saint Jean at Poitiers, in west central France, incorporates fragments of older buildings and combines forms of classical architecture in a decorative but poorly integrated fashion. Perhaps even more revealing is the Hypogee des Dunes (Crypt of the Dunes) at Poitiers—a 7th-century underground chamber serving as an abbot's mausoleum and memorial chapel, equipped with altar and shrines. The basic type of the structure was derived from tombs of Gallo-Roman aristocrats, but a new world is apparent in the decoration, a rich and fascinating mixture of Christian subjects with magical inscriptions and symbolic or protective carvings, often of fantastical animals.

Sculpture

During the Merovingian period workshops in Aquitaine continued to carve marble capitals of debased classical types that were shipped by water throughout France. The area east of Paris supplied stone sarcophagi for a wide area, of which the most impressive and interesting are three 7th-century sarcophagi in the crypt of the Abbey of Jouarre near Paris. That of the Abbess Theodechilde is covered with rows of seashells carved with great precision and elegance and has a long inscription of almost equally fine classical appearance. The long side of Bishop Agilbert's (d. c.680) sarcophagus depicts the Last Judgment with many hauntingly evocative figures of the resurrected dead; on its headpiece is a Christ surrounded by the Beasts of the Apocalypse, executed in a manner unparalleled elsewhere in the West but quite close to works from Coptic Egypt. The third sarcophagus is that of the Abbess Agilberta.

A number of other surviving sarcophagi and tomb stelae (commemorative plaques or slabs) depict both Christian subjects and some stemming from the Germanic heritage, of which the stele from Niederdollendorf (late 7th century, Rheinisches Landes museum, Bonn, Germany) is an excellent example.

Decorative Arts

Among the finest achievements of Merovingian art were objects of personal adornment buried with the dead, such as buckles, fibulae, and sword mounts. Those intended for royalty were made of heavy gold inset with jewels, and similar objects were executed in bronze and iron for less exalted personages. The same taste for brilliant color, rich materials, and simple, abstract form was also manifested in such works for the Christian church as large altar crosses, chalices, patens, book covers, and reliquaries, for example, the splendid reliquary casket of Teuderigus (late 7th century; Abbey Treasury, Saint Maurice d'Agaune, Switzerland).

Several monasteries founded by Irish monks—such as those at Luxeuil and Corbie in France and Sankt Gallen in Switzerland—produced ILLUMINATED MANUSCRIPTS, in which the primary decorations are enlarged initial letters made of animals intertwined and combined in unique and curious ways. Although rather crude in comparison with contemporary Celtic manuscripts (see CELTIC ART) from the British Isles or with later Carolingian books, in the best works, such as the Gellone Sacramentary (c.790-95, Bibliothèque Nationale, Paris), the initial pages are strikingly effective. They also exhibit a remarkable familiarity with Mediterranean art as well as with the regional Germanic tradition.

Lawrence Nees

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Norman architecture

Norman architecture was a well-defined regional variant of Romanesque architecture (see ROMANESQUE ART AND ARCHITECTURE) that developed in Normandy about 1020 and in England following the Norman Conquest, lasting until about 1150. It was a major source for both the aesthetic and the technical advances of Gothic architecture (see GOTHIC ART AND ARCHITECTURE).

In Normandy the style developed from such Early Romanesque churches as Saint Pierre (926-45) at Jumieges and the abbey church of Bernay (c.1017-40). Mont-Saint-Michel (1022-84) and Notre Dame (1028-67) at Jumieges are early examples of Norman style. Norman architecture is best exemplified, however, by the monastic churches of Caen—Saint-Etienne (c.1068-1115) and La Trinite (1062-c.1110), built as funerary monuments for William the Conqueror and his wife Matilda, respectively. La Trinite, typical of small churches in the style, is a basilican-plan structure (see BASILICA) with a series of parallel apses at the east end. The NAVE elevation consists of a round-arched nave ARCADE connecting the nave to the aisles; a short, blind arcade or TRIFORIUM at the second-floor level; and a CLERESTORY, or window level, with a passage in front of the windows reducing the thickness of the wall.

Saint-Etienne, a typical large Norman church, has a similar plan, sometimes called the Benedictine or the Norman plan. The nave elevation, however, is significantly different. Above the nave arcades, here carried on alternating supports, the triforium arcades are equal in size to those below, and open on tribunes or galleries over the aisles. The arcaded clerestory above them is of approximately equal height with a passageway in front of the windows, as at La Trinite. This type of passageway, first introduced in the transepts of Bernay and Notre Dame at Jumieges, extends completely around Saint-Etienne.

Norman architecture had influenced building in England before 1066—for example, at London's Westminster Abbey—but it became dominant after the conquest. Among the major monuments in this style are the cathedrals at Ely, Durham, Lincoln, Norwich, Peterborough, and Winchester. Most of the characteristic features of Saint-Etienne appear in these buildings, sometimes in slightly altered form. The passage in front of the clerestory windows and subsequent lightening of the walls appears in all the English examples. This feature may be the most important Norman contribution to English medieval architecture, directly anticipating Gothic construction.

The major English contribution to Norman architecture is rib-vaulted masonry covering (see ARCH AND VAULT). The most significant early appearance in England of such vaults is at DURHAM CATHEDRAL (begun 1093); it is from Durham that the practice was passed back to Normandy, where the original wooden roof of La Trinite and Saint-Etienne was replaced with rib vaults (c.1130). This took place immediately before the emergence of Gothic architecture in France and indicates the importance of Norman contributions to its development.

Eric G. Carlson

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Renaissance art and architecture

The term Renaissance, adopted from the French equivalent of the Italian word *rinascita*, meaning literally "rebirth," describes the radical and comprehensive changes that took place in European culture during the 15th and 16th centuries, bringing about the demise of the Middle Ages and embodying for the first time the values of the modern world. The consciousness of cultural rebirth was itself a characteristic of the Renaissance. Italian scholars and critics of this period proclaimed that their age had progressed beyond the barbarism of the past and had found its inspiration, and its closest parallel, in the civilizations of ancient Greece and Rome.

THE RENAISSANCE IN ITALY

The "rebirth" of art in Italy was connected with the rediscovery of ancient philosophy, literature, and science and the evolution of empirical methods of study in these fields. Increased awareness of classical knowledge created a new resolve to learn by direct observation and study of the natural world. Consequently, secular themes became increasingly important to artists, and with the revived interest in antiquity came a new repertoire of subjects drawn from Greek and Roman history and mythology. The models provided by ancient buildings and works of art also inspired the development of new artistic techniques and the desire to re-create the forms and styles of classical art.

Central to the development of Renaissance art was the emergence of the artist as a creator, sought after and respected for his erudition and imagination. Art, too, became valued—not merely as a vehicle for religious and social didacticism, but even more as a mode of personal, aesthetic expression.

Although the evolution of Italian Renaissance art was a continuous process, it is traditionally divided into three major phases: Early, High, and Late Renaissance. The last phase has been the subject in recent years of complex interpretations that recognize many competing and contrasting trends. Some scholars date the beginning of the Italian Renaissance from the appearance of GIOTTO DI BONDONE in the early 14th century; others regard his prodigious achievements in naturalistic art as an isolated phenomenon. According to the second view, the consistent development of Renaissance style began only with the generation of artists active in Florence at the beginning of the 15th century.

1536. The Early Renaissance

The principal members of the first generation of Renaissance artists—DONATELLO in sculpture, Filippo BRUNELLESCHI in architecture, and MASACCIO in painting—shared many important characteristics. Central to their thinking was a faith in the theoretical foundations of art and the conviction that development and progress were not only possible but essential to the life and significance of the arts. Ancient art was revered, not only as an inspiring model but also as a record of trial and error that could reveal the successes of former great artists. Intending to retrace the creative process rather than to merely imitate the final achievements of antiquity, Early Renaissance artists sought to create art forms consistent with the appearance of the natural world and with their experience of human personality and behavior. The challenge of accurate representation as it concerned mass sculptural form, or the pictorial considerations of measurable space and the effects of light and color, was addressed in the spirit of intense and methodical inquiry.

Rational inquiry was believed to be the key to success; therefore, efforts were made to discover the correct laws of proportion for architecture and for the representation of the human body and to systematize the rendering of pictorial space. Although these artists were keenly observant of natural phenomena, they also tended to extrapolate general rules from specific appearances. Similarly, they made an effort to go beyond straightforward transcription of nature, to instill the work of art with ideal, intangible qualities, endowing it with a beauty and significance greater and more permanent than that actually found in nature. These characteristics—the rendering of ideal forms rather than literal appearance and the concept of the physical world as the vehicle or imperfect embodiment of monumental spiritual beauty—were to remain fundamental to the nature and development of Italian Renaissance art.

The term Early Renaissance characterizes virtually all the art of the 15th century. Florence, the cradle of Renaissance artistic thought, remained one of the undisputed centers of innovation. About 1450 a new generation of artists that included such masters as Pollaiuolo (see POLLAIUOLO family) and Sandro BOTTICELLI came fore in Florence. Other Italian cities—Milan, Urbino, Ferrara, Venice, Padua, Naples—became powerful rivals spreading wave of change. Leon Battista ALBERTI's work in Rimini and Mantua represented the most progressive architecture of the new HUMANISM; Andrea MANTEGNA's paintings in Padua displayed a personal formula linear perspective, antiquarianism, and realistic technique; and Giovanni Bellini's (see BELLINI family) poet